PROJECT No. HOME/2012/ISEC/AG/4000004321 ***"Development of existing urban design, planning and crime prevention methods and introduction of new ones to improve living environment safety (CPTED)''***

Co-funded by the Prevention of and Fight against Crime Programme of the European Union

PUBLICATION OF CPTED COURSE

Tallinn 2015

1 INTRODUCTION 3

2 CRIME PREVENTION THROUGH ENVIROMENTAL DESIGN 5

3 CPTED SITE VISITS 9

Module III in Tampere 26 - 29.8.2014 9

The Muotiala area 9

Traffic information and control center 11

The city center of Tampere 11

Module IV in Netherlands 29.9.2014 - 1.10.2014 13

Bijlmermeer 13

IJburg 16

Alkmaar; Police Label Neighborhoods 17

Zaandam 18

4 CASE STUDIES FROM EACH COUNTRY 20

Assignment of Module II 20

Finland 21

Lithuania 27

Latvia 38

Estonia 50

Assignment of Module VI 58

Finland 59

Lithuania 71

Latvia 82

Estonia 95

5 EXPECTATIONS 107

1 INTRODUCTION

Crime prevention is one of the priorities of the European Union. EU Member States are constantly looking for the most effective ways of reducing crime and increasing the feeling of safety in communities.

Urban planning and environmental design are a very important part of crime prevention. This decreases the opportunity for crime and increases the quality of life. The project **Development of existing urban design, planning and crime prevention methods and introduction of new ones to improve living environment safety (Under the auspices of the Crime Prevention Through Environmental Design Program - CPTED)** was implemented in partnership with 11 partners from Estonia, Latvia, Lithuania and Finland:

The Estonian Police and Border Guard Board – Coordinator
2. The Finnish National Police Board
3. The State Police of Latvia
4. The Lithuanian Police Department under the Ministry of the Interior
5. The Estonian Ministry of Justice
6. The Estonian Ministry of the Interior
7. The Estonian Academy of Security Sciences
8. The Estonian Neighborhood Watch
9. The Association of Estonian Cities
10. The Harju County Administration (until September 2014)
11. The NGO Pro-Police Latvia

The main aims of the project were:

1. The development of existing CPTED methods in partner countries
2. Increasing the professional knowledge of participants in the CPTED
3. The creation of networks to improve cooperation and exchange of best practices
4. The preparation of learning materials and specific manuals for police officers

It is expected that after the project implementation, the CPTED method will be implemented in all partnering countries and introduced into the police education system. The project supports the Council of the EU Conclusion 8094/11 (2011) on the encouragement and adoption of the

philosophy and principles of CPTED by police in all EU states[1]; The Congress of Local and Regional Authorities of Europe (CLRAE 1997) declaration recommendations (special training for police officers to be able to advise regional and local authorities and professional designers on the relationship between crime and the built urban environment); The *Estonian Housing Sector Development Strategy 2008-2013* (to train officials in CPTED and to draft instructions); better usage of The European Standard CEN/TR 14383-2 (formerly ENV 14383-2:2003), which refers to crime prevention through urban planning and building design.

During the project, partners participated in the following activities: the opening and final conferences, 6 training modules, and national trainings in each partner country.

This publication is one of the project´s outputs, and was created by all the participating countries together. It is a general overview of the project including an introduction to CPTED principles, CPTED case studies from each participating country, overviews of site visits to Tampere (Finland) and Amsterdam (The Netherlands), and conclusions from each country about CPTED implementation in the future.

Altogether 60 participants have worked as the students in this project. Many of them have produced written assignments with the guidance of experts and the leaders of this course. These assignments are now generating parts of this publication and made the work of Editorial Board possible.

Sincerely,

The Members of Editorial Board

Matti Airaksinen, Finland
Marge Tamme, Estonia
Ülle Vanaisak, Estonia
Tarmo Roossaar, Estonia
Kristel-Liis Kaunismaa, Estonia
Lidija Legzdina, Latvia
Arunas Paulauskas, Lithuania

[1] http://www.veilig-ontwerp-beheer.nl/publicaties/draft-council-conclusions-on-encouraging-cpted/view

2 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

Crime Prevention Through Environmental Design (CPTED) is a multi-disciplinary approach to tackling criminal behavior through environmental design and urban planning.

The CPTED strategies are based on the ability to influence decision-making processes of offenders that are followed by criminal acts. The first time the relationship between urban environment and public safety was introduced was by anthropologist Jane Jacobs in her legendary book *The Death and Life of Great American Cities*, published in 1961.

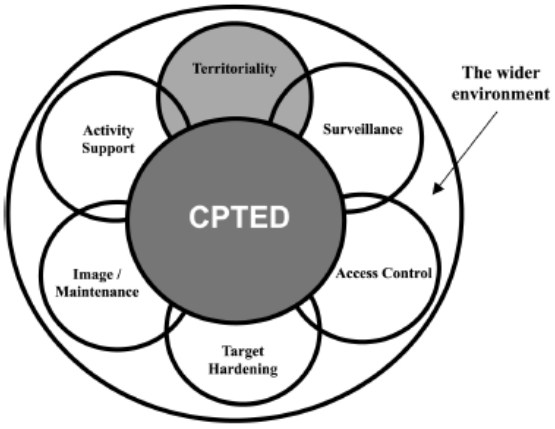
Jane Jacob's theory has two key concepts: 1) The eye on the street (the pre-sense of activity, of movement, of buildings opening onto the street, of windows overlooking it) is the primary safety factor; 2) Urban safety depends upon territorial identity: a person defends and respects a place which belongs to him/her.

Main Principles

The CPTED approach uses six main principles. In the literature several slightly different principles can also be found. Jane Jacobs used concepts like *social capital*, *visibility* and *territoriality*. Oscar Newman distinguished five principles that made space defensible: *territoriality, natural surveillance, image, milieu* and *safe adjoining areas.* Tom Crowe (1991/30) mentions three overlapping strategies: *natural access control, natural surveillance* and *territorial reinforcement*. Cozens, Saville and Hillier[2] (2005) list six principles, which we have adapted for the CPTED:

1. territoriality
2. surveillance (informal and formal)
3. access control,
4. image/maintenance
5. activity program support
6. target hardening

[2] Cozens, P.M., Saville, G. and Hillier, D. (2005). Crime Prevention Through Environmental Design (CPTED); A review and modern bibliography. *Property Management*, 23(5) pp 328-356. Bingley (UK): Emerald Group Publishing Limited.



Source: Adapted from Moffat (1983, p. 23)

Territoriality:

This is all about ownership or a sense of ownership. An emotion by which individuals and groups of people define a space as their own: “this is my/our courtyard, get out!” Thus there is an obvious motivation to control and protect a specific space which is rightfully owned and/or believed to be theirs. Signage, color, demarcation, gates - these are all means to the end for helping territoriality. By these means “physical design can create or extend a sphere of influence so that users develop a sense of proprietorship – a sense of territorial influence – and potential offenders perceive that territorial influence.” (Crowe, 1991/31)

Surveillance:

A distinction must be made between the natural surveillance by residents, the formal surveillance by police/security personnel and the semi-formal surveillance by the postman, housekeeper/concierge, housing official, etc. Surveillance today also includes technical surveillance with, for example, cameras/CCTV, drones, mobile phones or google glass spectacles. Surveillance assumes there is visibility: light and sight lines making it possible to survey an area. But before surveillance is effective more is needed than only visibility and eyes on the street. The eyes must be able and motivated to see something. Furthermore the eyes must understand what is happening (“is what I see happening over there right or wrong?”) and thereafter there must be an impetus to react, do something: shout, warn others, or phone the police/security. Hence from visibility to effective surveillance there are several steps to be taken.

Access control (the real or perceived limitation of access, egress and through movement): Rachel Armitage[3] distinguishes the following aims of access control:

To limit the likelihood that (potential) offenders will become aware that an area or potential target exists at all. This refers to awareness space: if no one knows a treasure is freely available at a specific spot, no one will take it.

To make it more difficult for offenders to navigate into, out of, and/or within an area.

To increase the physical difficulty of entering a building or space.

To increase the difficulty psychologically for offenders to enter and/or move around an area without feeling conspicuous.

To remove any excuse for potential offenders to be within a private or semi-private space and maximize the legitimate users' confidence in challenging non-legitimate users.

In short, the offender would not dare and/or be able to get into an area, building or space

Target hardening:

Target hardening refers to physical security and design which makes it more difficult to enter a building or space or vandalize an object. It is the most traditional response to crime: making it physically difficult for offenders, using locks, bolts, bars, doors, gates, etc: the medieval fortress approach. Strictly speaking this principle is incorporated in the principle of access control. Important for burglary is the 'ALRE =< PECE' rule: the Alarm (AL) should trigger a reaction (RE) that is faster than the complete burglary process, which includes Planning (P) + Entry/break in (E) + Collecting of the rewarding stuff inside the building (C) + the escape and fleeing (E)[4]. The alarm must thus be given as quickly as possible and thereafter it must take a while for burglars to really get in. Hence: make the roller shutter behind the glass and connect alarm to breaking glass. It is an extremely simple rule which is often not followed by security firms.

Image maintenance:

Some use the term *image* to mean 'does an area/space look quite nice and clean (an attractive place)?' Some use the term *management and maintenance* (see also *The Safepolis Manual: Planning Urban Design and Management for Crime Prevention***).** The principle is to keep an area free from litter, graffiti, vandalism, and damage. An area should not look rundown or not taken care

[3] Armitage, R. (2014) Crime prevention Through Environmental Design. In: Encyclopedia of Criminology and Criminal Justice. New York: Springer Science-Business Media.

[4] Original theory by Hein Stienstra, TBBS, The Netherland in the 80s.

of. This triggers more and other crimes and also feelings of insecurity. This is also often called the "broken windows theory"[5]. Extremely practical behavioral experiments in the Netherlands[6] strongly support this broken window theory.

Facilitating positive use:

This principle relates to the creation of an environment which increases the likelihood that legitimate users will make use of an area. Such a 'better mix of users' is also important, for example, in crowd control: a mixed mass of people (old/young, men/women) is often more relaxed and less dangerous than a group of young men.

[5] Wilson, J. Q, Kelling, G. L (Mar 1982), Broken Windows: The police and neighborhood safety, *The Atlantic*, retrieved 2007-09-03 (Broken windows (PDF), Manhattan institute).

[6] Keizer, K., Lindenberg, S. & Steg, L. (2008) The Spreading of Disorder. *Science* 12 December 2008: 1681-1685

3 CPTED SITE VISITS

This chapter is a review of participants' study trips to Tampere, Finland and The Netherlands. In both countries we experienced real life implementations of CPTED principles, and also deepened our knowledge about the subject.

The Tampere visit took place in August 2014. It included one day of study at the Police College of Finland and a field trip to Muotiala and the city of Tampere.

Module III in Tampere 26 - 29.8.2014

The Muotiala area

The detailed city plan of the Muotiala area is the first detailed city plan in Finland that systematically takes into account the goal of safety in the built environment.

Muotiala was the first and only CPTED neighborhood in Finland. In 2008 the outcomes of the approach were evaluated by the Helsinki University of Technology. Overall the results were very positive: residents considered Muotiala to be very safe and they used the public space a lot; planning solutions focusing on facilitating social interaction proved to be successful; well deigned lighting promoted a sense of safety and active use of spaces; and the building costs were not different from other projects.[7]

The creation of a safer environment was a central theme in the cooperation with the residents from the very beginning of the process, in which the residents of the city were being heard in an interactive planning process.

A representative of the local police district participated as an expert on safety issues in all planning meetings for developing the detailed city plan of the area. The police brought in their everyday

[7] http://costtu1203.eu/wp-content/uploads/2014/10/03.-Review-of-CEN-14383-The-death-and-life-of-geat-European-standards-and-manuals.pdf

know-how on crime and disorder, for instance concerning evaluations of local crime concentrations and their impact on the draft plans.

The detailed town plan includes particular regulations concerned with safety. Safety is consciously taken into account in the regulations for lighting plans, landscape planning and instructions for construction methods.

Spatial hierarchy has been accentuated by changes in the coffering material.

For instance pedestrian walkways and building clusters are located in a way that promotes natural surveillance: areas with the character of a no-man´s land have been minimized.

The problems of crime were considerably lower in Muotiala than in Tampere on average. The inhabitants identified very few experiences of feeling unsafe inside the Muotiala area, whereas several such experiences were identified as having taken place in the neighboring blocks.

Traffic information and control center

The Finnish Transport Agency is responsible for Finnish roads, railways and waterways and for the overall development of Finland´s transport system. They take care to safeguard the transport system and ensure that it is working also under abnormal conditions and in exceptional situations under normal conditions.

The Transport Agency data collected will be open to all citizens and the various interested parties. Traffic reports offer up-to-date information on Finnish roads, including roadwork, congestion and other disturbances. The service also makes available weather camera images.

The city center of Tampere

The city of Tampere is one of the most attractive growth centers in Finland. Managing this growth poses a challenge to the functionality of the region´s community structure, the balanced development of the different areas and ecological sustainability. Tampere is a lakeside city. Being near the water makes the center a more attractive place to live. The center must be prepared to house 10,000 inhabitants, and the construction of housing is needed.

The center formed a comfortable and attractive pedestrian-oriented area, which supports trade and services development. The tunnel and interchanges provide a smooth route for the sub-regional traffic in accessing locations outside the city center.

Walking and cycling are facilitated, and public transport and underground parking run smoothly.

Module IV in The Netherlands 29.9.2014 - 1.10.2014

The Netherlands visit was at the end of September 2014. In three days we visited Bijlmermeer, Ijburg, Alkmaar and Zaandam.

Bijlmermeer

Bijlmermeer is one of the sub-urban areas of Amsterdam. Its design and plan were influenced by the famous architect Le Corbusier. The vision for Bilmermeers was to create a functional town where people and cars could move on different levels. When people come to their living area, they leave their cars in the parking complex. Then they walk above the green level in tunnels to their apartments. Between the buildings are large green areas.

The concept was a dream, which never worked as planned. Because of general social developments, not enough people wanted to move to the area. The number of vacant dwellings rose and crime analysis showed a rise in crime and fear of crime. This all led to a solution that saw an enormous number of buildings demolished, at the cost of 1.5 billion euro. The neighborhood's redesign used the CPTED principles and followed the requirements of the Police Label Secure Housing guidelines (a Dutch standard for developing and building new communities). Today the neighborhood is very multi-cultural and its residents come from many different countries.

Bijlmermeer is an example of high-rise complexes that should not be built. It was surprising that the density of people per square meter was relatively low in the area. The high-rise buildings block the view and in a way they restrict the sense of open space.

Street level storage units and a pedestrian bridge to the dwellings remain as reminders of the history.

It is important for people to know their surroundings, neighborhood and residents. When people sense communal interest they take care of their community and each other. At the same time, they focus and observe the area better.

The impression of Bijlmermeer was a bit unpleasant even after a lot of improvements had taken place. The fairly large parks seemed to struggle with maintenance and from a broad view the public places were deserted. There is still a possibility for increasing the attractiveness of the parks. At this time the public outdoor places are somewhat run-down and not exactly inviting for the residents to spend time in.

IJburg

IJburg is a residential neighborhood, under construction since 2013, in the eastern part of Amsterdam. It is situated in the IJ Lake and is being built on artificial islands.

The area was designed for an open feel and most of the buildings are low in height. The streets are wide, the trees are low-growth varieties, and the lighting is carefully designed. The Dutch style seems to be to place the front doors and apartment windows immediately next to the sidewalk.

One of the main issues for CPTED planning is that each plan must be adjusted to the culture and the customs of the country that the plans are designed for. If the public green areas are poorly taken care of, this exposes the areas to vandalism along with other undesirable consequences.

Alkmaar; Police Label Neighborhoods

Police Label Neighborhoods seem to be attractive residential areas with a feel of safety when moving around. Alkmaar has a nice general overview, social observation and supervision are easy and it is quite easy to recognize CPTED principles in this area.

The atmosphere was inviting, warm and pleasant. Police Officer Armando Jongejan showed us around in two neighborhoods where he had implemented the Police Label Secure Housing agenda several years ago.

The Dutch Police Label Secure Housing (Politiekeurmerk Veilig Wonen®) is a Dutch standard for developing and building new communities. It is an effective model for reducing environmental crime and fear of crime. It includes forty-eight patterns of design elements that have possible crime-preventative and fear-reduction effects. These design elements are relevant to different levels, such as: urban planning and design, public areas, layout, buildings and dwellings. The Socially Secured Design Checklist has eight criteria, listed below:

- Presence of potential offenders
- Attractiveness and vulnerability of the target
- Physical vulnerability of target
- Presence of ‘social eyes’, exercising surveillance and control
- Visibility (lighting, layout of buildings, landscaping)
- Involvement and responsibility;
- Attractiveness of the surrounding area
- Accessibility and escape routes.[8]

[8] http://www.veilig-ontwerp-beheer.nl/publicaties/a-successful-cpted-approach-the-dutch-2018police-label-secure-housing2019#

Zaandam

Architect Sjoerd Soeters showed us around in the city center and told us about the region's history and development. He also gave us a presentation in the Town Hall about architecture.

The new center of Zaandam is one of the most successful city-center projects in the Netherlands. The public space has been overhauled and now has its own distinct appearance. Visitor numbers have risen and tourists are coming especially to see the center.

Zaandam and the surrounding Zaan River region have a history that is intimately connected with industry. The river separates it from the city of Amsterdam .

After years of development and huge investments, Zaandam is today a very lively city. The city plan required the entrepreneurs, who were also involved,

to build a more attractive environment. In the city almost every shop and building storefront had been renovated.

Zaandam has introduced excellent innovations like a free cycle shed with services. There were also several solutions for how common areas are used, such as walking areas, rest areas and market places.

In Zaandam we observed that architecture is not about the buildings. Architecture is about the people. In Zaandam this point of view played an important role in planning. We observed a great variety of scenery that was pleasant and inviting. And that is how it is supposed to be. A city center should invite people there and increase social activity in the area.

Greater social activity in the area increases natural surveillance, one of the CPTED principles. A combination of details matters and maintenance also plays a big role in the picture.

4 CASE STUDIES FROM EACH COUNTRY

In this chapter we present the participants' work on interesting cases where CPTED principles have been implemented.

Assignment from Module II

We have chosen work examples from each country. Because the number of participants varied between countries, some have more work examples than others. From Finland we have one example and from Latvia and Lithuania we have two examples. Estonian participants have gathered together a summary of 7 cases. All these work assignments follow the format laid down in the European Standard CEN/TR 14383- 2:2007.

The approach for all these work assignments starts with answering three questions:

- **Where?**

  The identification of the exact location of the area (by co-ordinates, and/or defining boundaries, and/or postal codes, etc.) and the type of area; an area is either an area comprising an existing urban fabric of buildings and streets/roads or a planned (new) area.

- **What?**

  The primary and general identification of the crime problems occurring in an existing area, or the future crime problems that may occur in a new area, as well as the propensity of this area toward attracting crime and anti-social behavior and generating fear of crime

- **Who?**

  The identification of the stakeholders involved in defining the crime problems more precisely, assessing or reviewing them in more depth and implementing/executing the measures to prevent and/or reduce the crime problems.

Finland

Analysis report by Juha Laaksonen, Jari Hakala and Antti Tikkanen

Helsinki, Pukinmäki.

Pukinmäki was one of the oldest villages of the former Helsinge parish. The first blocks of flats were built in the 1960s, but the majority came along later, in the 1970s and 1980s. Most inhabitants live on the North Ring Road I. The Savela area was constructed later to the south-east of the railway, and the area of Pukinmäki triangle was built still later.[9]

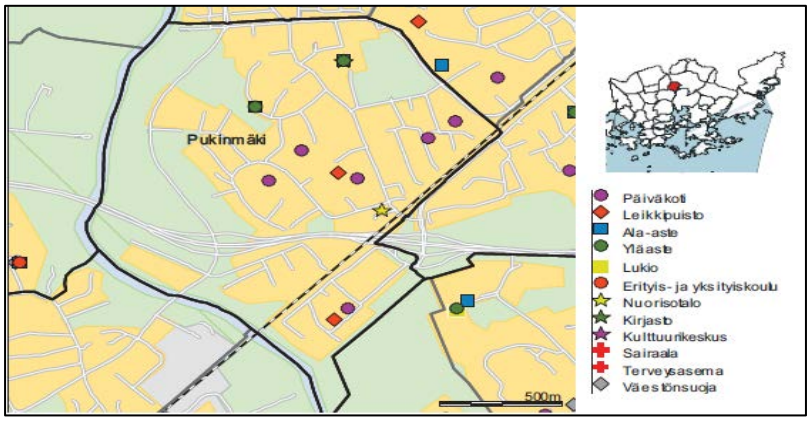


Figure 1. Map of Pukinmäki.[10]

Pukinmäki is a densely constructed and variegated suburb. The old shopping center has been demolished and new flats for seniors have been constructed. The Pukinmäki and Savela area landscape is characterized by hilly terrain and lush parks. The services of Pukinmäki are not very extensive. More extensive services are located in Malmi, which is located one kilometer from Pukinmäki.[11]

[9] Helsinki alueittain 2013.
[10] Ibid.
[11] Ibid.

Population Structure

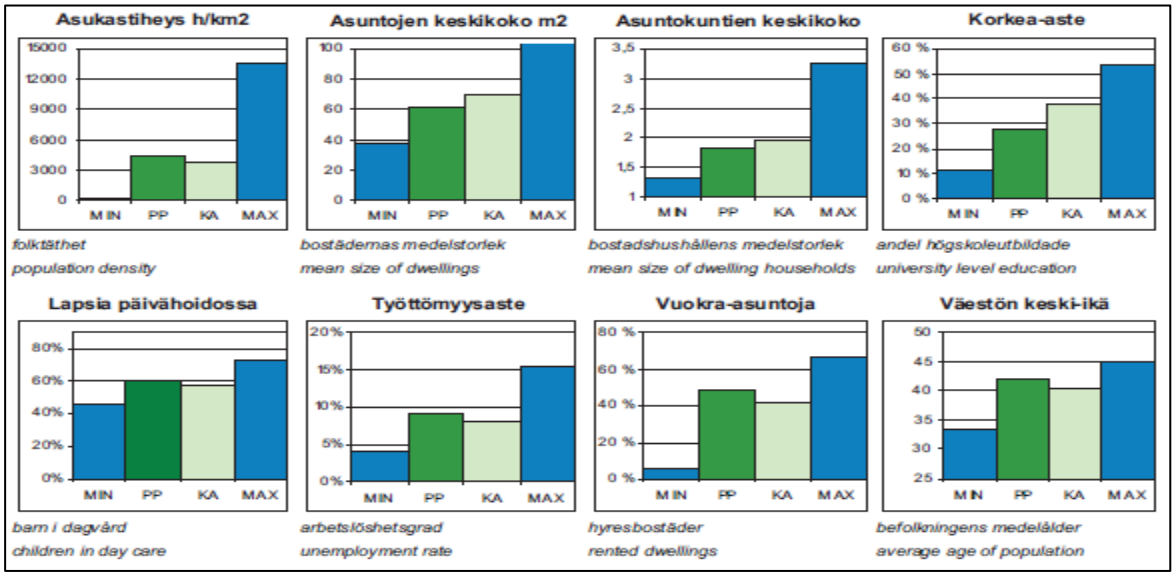


Figure 2. Demographic statistics of Pukinmäki.

Pukinmäki has a higher population density, a higher children in day care rate, higher unemployment rate and a greater elderly population than the average Helsinki district. There is also a lot of public rental and student housing. Student housing is located in the Savela area. All these factors can contribute to crime rates in Pukinmäki[12].

Field studies in Pukinmäki

We made a field visit or a safety tour[13] in Pukinmäki. For observation we used the planning principles of the CPTED approach. The purpose of the safety tour was to observe the physical structures of Pukinmäki including, for example, buildings, traffic (roads, streets, paths etc.), activities, parks, public transportation and lighting.

Surveillance. The design and layout of Pukinmäki are understandable, including the ability to see and to understand the significance of what is around in the space and what is ahead. Sightlines are quite clear and there are no entrapment spots. A person who is using a building or space will not be isolated. A person will see and be seen.

[12] For example Sirén 1984; Takala 1979; Heiskanen, Sirén & Roivainen 2003; Sampson 1995.
[13] http://www.tryggaremanskligare.goteborg.se/pdf/engelska/Trygghv_conf_eng.pdf

Most of the services of Pukinmäki are located in the center of the suburb, which means that there is quite a lot of traffic - and "eyes on the street" at certain times. In the center of Pukinmäki there are shops, pubs, hairdressing salons, bus stops, the railway station, etc. The person who uses services and moves in the area creates natural surveillance. During the night the center of the neighborhood will slow down.

Hierarchies of space are quite well developed. Spaces are demarcated by plants, fences, and other physical solutions. However there are also spaces that are not very well configured. These kinds of inadequacies are usually to be found in the areas where there are blocks of flats.

The windows, doors and balconies of buildings are well-designed. The placement and design of windows, doors and balconies increases the ability of those who care to observe spot intruders as well as regular users, and thus provides the opportunity to challenge inappropriate behavior or report it to the police or the property owner.

Access control. Private and public places are rather well marked. Natural access control employs elements like doors, shrubs, fences, and gates to deny admission to a crime target and to create a perception among offenders that there is a risk in selecting the target[14]. The outdoors of high-rise buildings are mostly locked. The primary thrust of an access control strategy is to deny access to a crime target and to create a perception of risk to offenders.

Territorial reinforcement. The hierarchy of spaces is well defined, except for some high-rise buildings. People take more interest in something they own or when they feel intrinsically involved. If people feel a pride of ownership then there is a greater propensity to take care of the environment and look after those in the community.[15] The environment should be designed to clearly delineate private spaces. High-rise buildings in the same housing complex have been designed in such way that they form a sheltered courtyard. A courtyard is intended for residents of the housing complex.

[14] Crowe 2000.
[15] Crowe 2000; Sarkissian & Welsh 1994.

Territorial reinforcement employs such design elements as sidewalks, landscaping, and porches to help distinguish between public and private areas and helps users exhibit signs of "ownership" that send "hands off!" messages to would-be offenders.

Maintenance. The neighborhood is quite well maintained. A well-maintained home, building or community creates a sense of ownership, which helps to deter criminals[16]. Public areas are maintained by the city of Helsinki. Private areas are maintained by the owners or maintenance companies. Lighting fixtures are maintained in clean condition and replaced if burned out or broken. In the public places there is no guidance on how to report maintenance or vandalism problems in the area. Graffiti and garbage is concentrated in the center of Pukinmäki. Most of the graffiti is around the railway station. Most of graffiti has been on the walls for quite a long time. In public places there is an adequate number of garbage receptacles, even if it is occasionally difficult to believe since there is sometimes so much garbage on the streets.

Crimes in Pukinmäki

Crime is heavily concentrated in Pukinmäki. Hot spots are small places in which the occurrence of crime is so frequent that it is highly predictable, at least over a one year period. The question is whether certain places tend to specialize in certain types of crime.

[16] Crowe 2000; Safer Places 2004.

Figure 3. Crime Hotspots in Pukinmäki.

Crimes committed in Pukinmäki are mainly property crimes. Property crimes are mainly thefts and damages against property. The thefts are mostly car crimes, which occur in large and poorly-planned car parks. Damages to property are mainly graffiti. Graffiti is concentrated heavily at the railway station and in the nearby area. Crime is concentrated in the center of Pukinmäki and in the few places where public rental and student housing are located. Crimes occur mainly in the evenings and at night. Police records show that a high percentage of the offenders are local residents, while some are from outside the area. Pukinmäki population characteristics can contribute to crime rates in the area.

Fixing the hotspots

Graffiti and car crimes are the biggest crime problems in Pukinmäki. Here are the problems in the physical environment and recommendations on how to fix them.

Redesigning car parks

Present situation

- Parking lots are large, poorly designed and badly illuminated.
- Bad maintenance - parking lots are often surrounded by lush vegetation, which blocks natural surveillance very effectively.

- Parking lots are located far away from activities, companies and dwellings - possibilities for natural surveillance and access control are poor.
- Parking lots are poorly defined.

Recommendations

- The lighting should be improved in every parking lot;
- Maintenance. Lush vegetation should cut by the City of Helsinki or property owners.
- In some parking lots, it would be advisable to use CCTV surveillance.
- Parking lots should be defined clearly by signs and use of fencing.
- Parking lots should be divided into smaller units.
- Police and insurance companies could provide more information about car crime to car owners and advise on how to prevent crime, thus encouraging better security habits among car owners.

Redesigning Pukinmäki railway station and its surroundings

Present situation

- The railway station and its surroundings are poorly controlled.
- The railway station is poorly designed and illuminated. The station has two ways out. The routes do not feel safe - there are entrapment spots like long tubes and corridors, blind corners, tight spaces, and underpasses where, for example, the whole route cannot be seen by the pedestrian from within or before entering, or from without by the observer.
- The railway station and its surroundings are poorly maintained - there is graffiti on the walls and garbage on the ground.

Recommendations

- Good maintenance. Graffiti and garbage should be rapidly and routinely detected. Quick detection of graffiti provides better information for developing effective interventions[17].
- Surveillance. Increasing electronic security. It would be advisable to use CCTV surveillance to support natural surveillance.
- Increasing the difficulty of offending - Anti-graffiti coverings and surfaces make surfaces easy to clean, difficult to write on, or both.
- The lighting should be improved in the area of the railway station.
- Focusing on serial offenders.

Who should be involved in planning?

Stakeholders:

- Police - To generate crime prevention and CPTED recommendations, since they have expertise in the planning process.
- The City of Helsinki - architects and planners
- The City of Helsinki - Public Works Department (which is responsible for the maintenance of the area) – To share their expertise in the planning process.
- Housing companies

[17] Lamm, Weisel, 2002.

- Residents - To take part in crime prevention.
- Public transport (VR Group and HSL) – To share their expertise in the planning process for crime prevention.
- Services – To share their expertise in the planning process.
- Youth workers - To provide activities to youth.
- Local schools - To teach and control the youth of the area.
- TE Services - To activate the inhabitants of the area to work.
- Insurance companies - To give advice on crime prevention.

Lithuania

The project of Lithuania Group 1

Verkiai Regional Park is one of the Regional Parks in Lithuania. It is located almost entirely in the Verkiai Elderate of the Vilnius City Municipality (an elderate is the smallest administrative division of Lithuania). The park was established in 1992 in order to protect the natural complexes of the Green Lakes and the cultural complexes of Verkiai Palace and a park named Kalvarijos and Trinapolis, as well as other valuable assets. The park occupies 2,673 ha (compared to the 5,565 ha of the

elderate). Forests cover 76.5%, reserves occupy 52.7%, and 23.9% of the territory is designated for recreation.

As one of the most famous places close to Vilnius, especially in the summer season, this area has a lot of problems, related to heavy traffic and the bad habits of visitors. People (most of them young) come here to relax, and not all ways of relaxing chosen by young people, are welcomed by local community members. Approximately 10,000 inhabitants live close to this area, most of them in individual houses. The area is seen to be a place where affluent people live, those who are looking for a safe and tranquil place to live, close to nature and not too far from the city center. In 2007, active community members started their own safe neighborhood project “Safe Balsiai”, ready to implement a lot of needed changes. As this area has optimum conditions for some very special and protected plants (33 plant species listed in the Lithuanian Red Book, one of them especially rare), it is also very important to the Lithuanian Fund for Nature. Representatives from this Fund also contacted local police units with proposals for cooperation.
From the crime statistics perspective, the most important offenses in this area are (number per year):

Consumption of alcohol in public places (approximately 5,000, according to community and police information);

- Traffic offenses and recreational driving in forbidden places (2400-3000);

- Graffiti on abandoned buildings or buildings without permission (26);

- Public disorder offenses during the summer season (77 reported to police);
- Destruction of plants listed in the Lithuanian Red Book (no information about offenses, but a lot of complaints from the Lithuanian Fund for Nature).

Stakeholders

After a small situation analysis concerning the implementation of the CPTED project, these main stakeholders were chosen:

- ***Local police units*** – responsible for the coordination of action, patrolling and investigating reported crimes.
- ***The Municipality of Vilnius*** – responsible for the elimination of abandoned buildings, installation of lighting systems, placement of special signs where traffic is forbidden;
- ***The Directors of regional parks*** – responsible for the creation of information stands, prohibitory signs etc., and for spreading information about installed technical equipment, as well as for the placement of natural barriers close to protected plants.
- ***The Lithuanian Fund for Nature*** **-** responsible for establishing fences and other technical equipment for environmental surveillance.
- ***The Forest Rangers of Verkiai*** – responsible for patrolling in forests and reporting about offenses to responsible authorities.
- ***The Balsiai community*** – responsible for informal territory surveillance and reporting offenses to responsible authorities – also, one of the channels for communications concerning implemented actions.
- ***Public security officers from the local municipality*** – responsible for patrolling and fining minor offenders;
- ***Beach lifeguards*** **-** responsible for patrolling beach territory and reporting offenses to responsible authorities.
- ***Volunteers*** – participation in police actions (patrolling together with police officers and reporting offenses to responsible authorities).
- ***Local schools*** – participation in crime prevention activities (police presentations for children concerning offences and tips for security on the beach before summer vacations);

The objectives, targets and results

Problem	Objectives and targets	Results
Alcohol consumption in public places	Placement of stands with information about criminal liability for alcohol consumption in public places; To decrease the number of places where it is possible to buy alcohol; To decrease the number of reported alcohol consumption offenses by 20%.	5 stands with such information were placed; Before project implementation the area had 2 places where it was possible to buy alcohol. One of them is closed during the project implementation period. Police organized targeted patrolling – 65 offenders were penalized for alcohol consumption in public places.
Traffic and recreational driving offenses in forbidden places;	Placement of special signs, where traffic is forbidden; Placement of natural barriers in the most problematic areas.	2 signs were placed. 2 stone barriers were created.
Graffiti on abandoned buildings, or on buildings without permission	Elimination of abandoned buildings by 50%.	Information about such buildings was sent to the local municipality. Decisions are pending.
Public order offenses during the summer season;	Installation of lighting systems in the most problematic areas;	Information about the most problematic areas was sent to the local

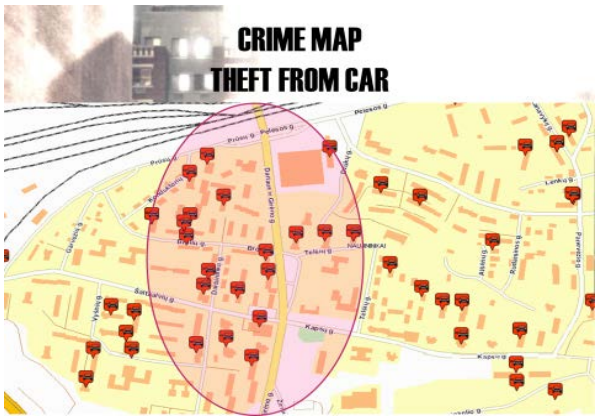
		municipality. Decisions are pending.
	Installation of video monitoring systems;	Video monitoring systems were installed in areas where protected plants are growing.
	Decreasing public order offenses by 20%.	The police unit registered two public disorder crimes. Both criminals were arrested. In addition, 197 minor offenders were penalized.
Destruction of plants listed in the Lithuanian Red Book	Placement of fences in special areas;	A fence was built.
	Placement of stands with information about criminal liability for destroying protected plants;	1 stand was placed.
	Installation of security systems in the most problematic areas.	Video monitoring systems were installed in areas where protected plants are growing.

The project of Lithuanian Group 2

Area description

The neighborhood of Naujininkai is infamous for its bad reputation. This area quite often is labeled with a black star for criminality within the city of Vilnius. So, Lithuanian Group 2 decided to choose this area, especially the central part of the Naujininkai neighborhood.

According to crime statistics, more than 20 robberies, more than 280 thefts (including over 125 thefts from cars), and approximately 15 burglaries are committed in this area every year. The crime situation in the area is strongly influenced by the location of a Roma (gypsy) community near the neighborhood. The area has become a transit stop for most hard drugs users, especially of heroin, passing through from all over Vilnius. Most of the crimes in the public areas are committed by drug users who are travelling to the Roma community and on the way, in order to get money for buying drugs, they are constantly looking for something that is easy to steal. In the area there is a public transport hub, two schools, a market (bazaar) and a Maxima supermarket. In this area, the most focus needs to be devoted to the Naujininkai transport hub, because here there is both very intensive local traffic as well as significant drug user traffic from the whole city. This means that the main safety measures have to be concentrated in this area.



Stakeholders

The main stakeholders for the implementation of the CPTED principles in the area should be:

- The Vilnius City Municipality and the sub-district of Naujininkai. Most of the safety measures could only be realized with the strong support of the Vilnius City Municipality, because this authority manages the budget of the city and the Municipal Council makes decisions concerning how to allocate funds and how much to spend on increasing safety in specific areas. The role of local communities and the police is very important, especially in focusing on the most dangerous areas and providing this information to the Municipality.
- The Transport Services. As we mentioned before, the main problematic area in the central part of Naujininkai is the public transport hub. Some percentage of the income of transport companies has to be invested in the safety of transport hubs and stops. The shelters, extra lights, CCTV cameras and other safety measures are the responsibility of the transport carriers.

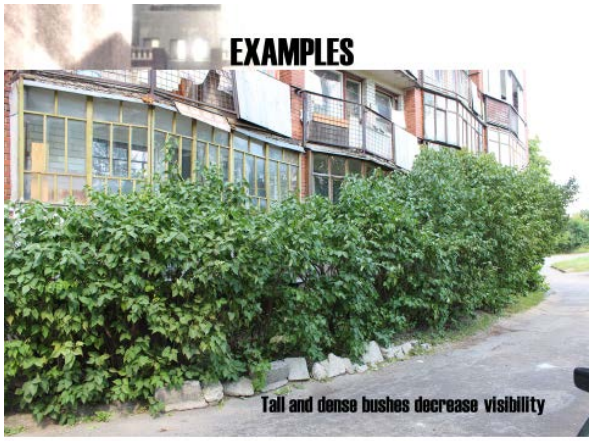
- The community of Naujininkai sub-district and the Safe Neighbourhood Group of 11 Darius and Girėno Street. The local community is a very important stakeholder in the implementation of CPTED principles in the area. First of all, active local communities can strongly influence the local authorities to include CPTED implementation and local communities can invest in CPTED implementation in their private areas.
- The Maxima Supermarket. It is the main center of attraction in the Naujininkai neighborhood. At this time, the supermarket puts a lot of attention on safety, mostly on the prevention of shoplifting inside the premises. More than 70 CCTV cameras have been installed inside, but not one outside the shop.
- Schools and gymnasiums are a very important part of the neighborhood. More than 2,000 children attend these schools, and more than 400 staff members work in them. The safety of the pupils is very important and the local municipality together with the community have to keep looking for the most effective ways to ensure safe routes between homes and schools, as well as safety within the schools, including CPTED implementation.

The objectives

The main goal of the implementation of CPTED in the central part of the Naujininkai neighborhood is to decrease the crime and misdemeanor rate in this area by up to 20% and increase the feeling of safety among inhabitants.

The other objectives are to reduce drinking and related offences in public places, as well as reducing crime, disorderly conduct, drug abuse and related offences and crimes, and to control youth gathering places and Roma offenders.

1. The main measures
    - Controlling vegetation. The situation with public horticulture in the central part of Naujininkai and the whole neighborhood is quite complicated. Due to lack of maintenance the bushes and trees have grown wild and this strongly decreases visibility in most places. Control of vegetation here could be the most effective and the cheapest way to increase visibility and safety at the same time.



- Installation of CCTV cameras and lighting. This task mostly depends on the Municipality. Starting in the beginning of 2015, the Vilnius City Municipality will install a video surveillance system in the whole city. During this project 3-4 cameras should be installed in the public transport hub of Naujininkai. The map of demand for extra lightning will be prepared and given to the Municipality.
- Engineering solutions for safety improvement. This will involve a reconstruction of entrances to blocks of flats, installation of shelters in the transport hub, removal of old trading kiosks and the installation of new ones, etc.

- Surveying residents and businesses concerning their feelings of safety. It is very important to know how the inhabitants and visitors in the areas feel. These surveys could be performed in the schools, shopping centers, with members of neighborhood safety groups, etc.

What has been done?

The Lithuanian CPTED Group 2 prepared a crime analysis of the exact area and field work in the area. In accordance with the main CPTED principles, some recommendations have been prepared. These recommendations were sent, in the middle of October, to the Vilnius City Municipality. We are still waiting for the response of the Municipality. The main focus in the recommendations was on the transport hub of Naujininkai. We recommended the installation of shelters for passengers waiting for public transport, the removal of old kiosks from the transport hub and the installation of a new trade pavilion, the installation of CCTV cameras, and the control of vegetation that decreases visibility. The first phase of the work has begun. Together with landscaping services, it has been determined which plants will be cut in the area. During the meeting with the Maxima supermarket management we got a promise to install CCTV cameras around the supermarket and to install extra lights where necessary.

Now we are in the process of presenting CPTED to police officers of Lithuania, to local authorities, city planners etc. From the 7th of November 2014 in Vilnius, the county police headquarters is starting CPTED training for community officers. The chief goal of the training is to provide the main points of the CPTED program for police officers. We expect that after the training police officers will be able to prepare simple CPTED recommendations.

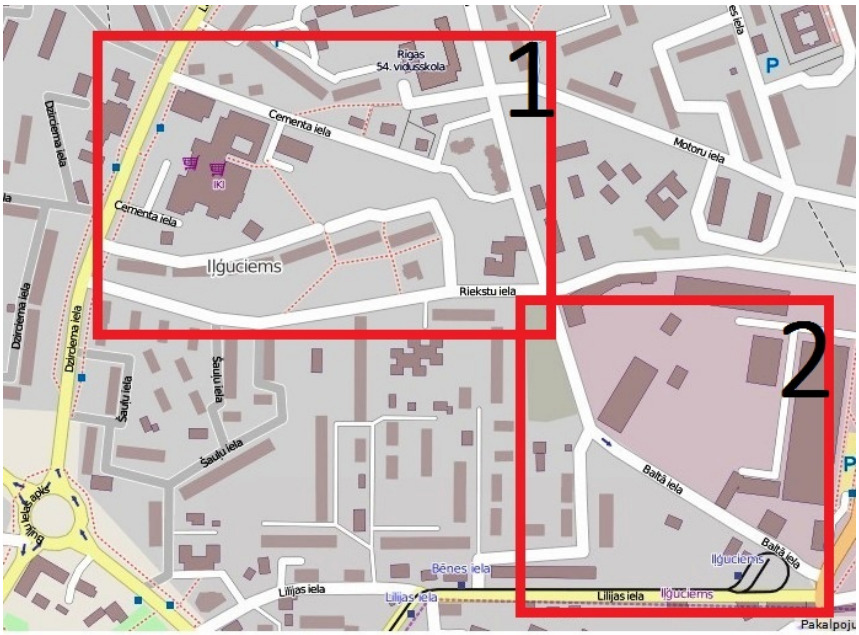
Latvia

Area description

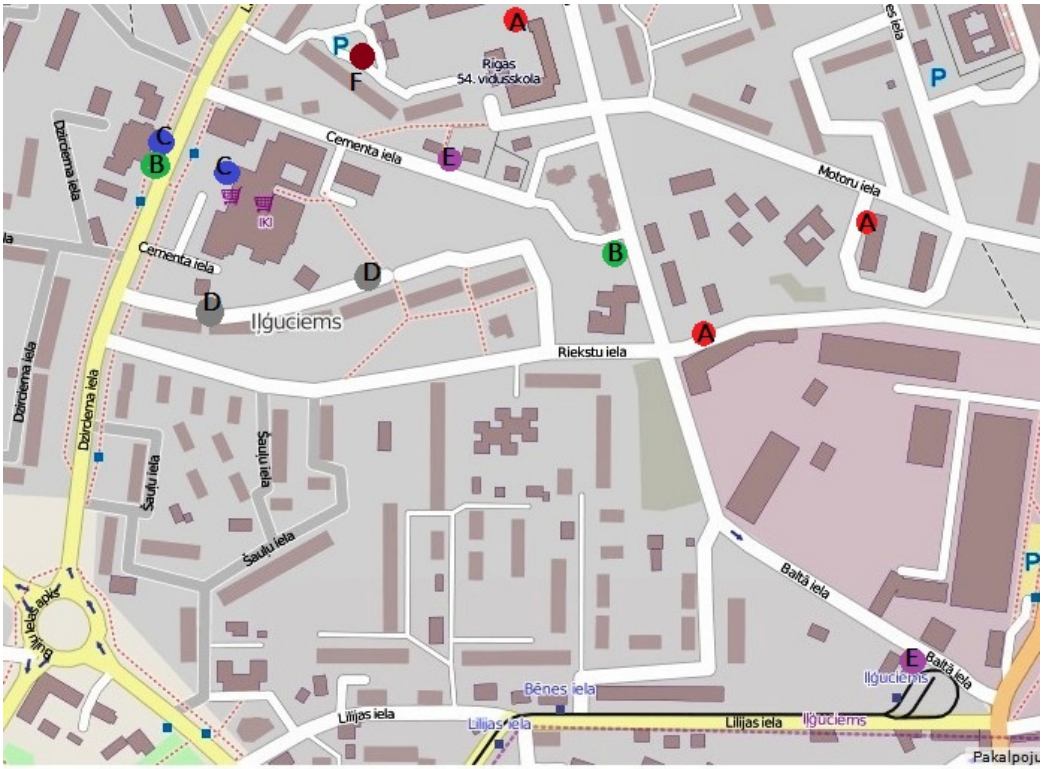
The Iļģuciems neighborhood of Riga was chosen for the study. The defined area is comprised mostly of blocks of flats, some kindergartens, schools, and one shopping mall. For analysis two specific areas were chosen: Main Sector 1 and Additional Sector 2. Sector 2 was added because people living in that defined area reported feeling unsafe on particular streets.

In Area 1 there are approximately 10 blocks of flats and 8 smaller living houses, 2 schools, 1 kindergarten, 2 shopping malls, a post office, a small casino, a market (in the area of the shopping mall), a bar and parking lot with a guard. However near both areas, the social housing of the Municipality is located.

In Area 2 are garages, old manufacturing premises, a few blocks of flats and a tram station. People residing in Area 1 need to go through Area 2 from the tram station to their houses.



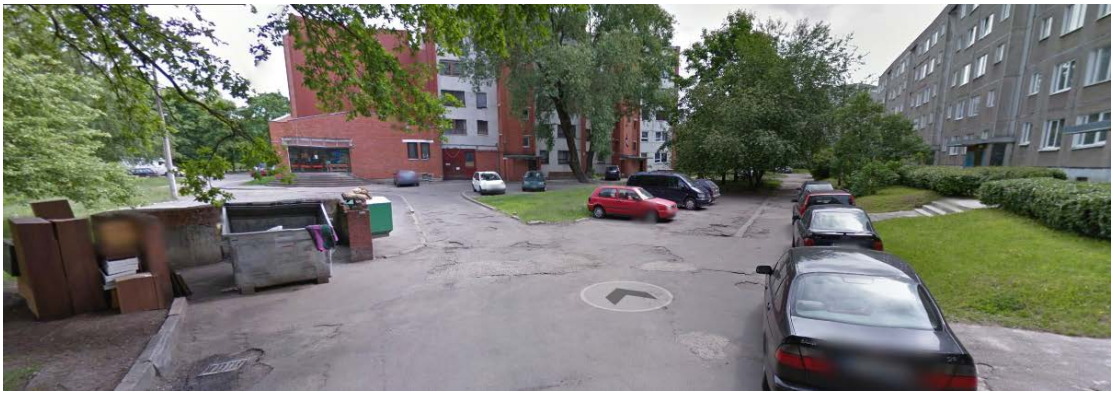
Reported problems and incidents within the defined area:



Based on police data from January 1, 2014 to April 15, 2014 the following incidents were reported in sector 1: (a) 1 case of a drug addict on the street (2 cases in a nearby area); (b) 2 cases of drunks on the street; (c) 24 cases of shoplifting; (d) 2 cases of burglary; (e) 1 case of men urinating on the street; (f) 1 case of theft from a car.

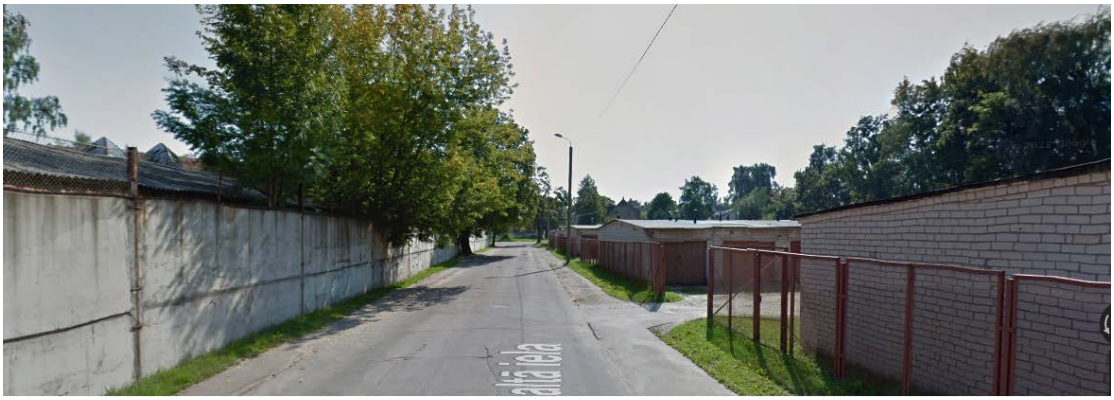
Area of the burglaries:

Area of the car theft:



Based on police data from January 1, 2014 to April 15, 2014 the following incidents were reported in Sector 2: (e) 1 case of urination on the street.

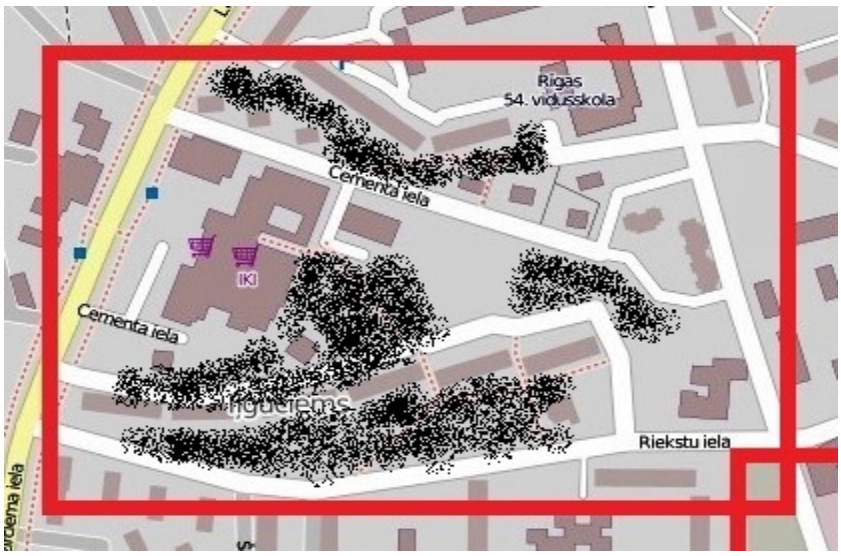
In Area 2 no incidents or crimes were registered although people reported being scared of going along this street. The possible reason could be that this street has no escape routes. Along one side of the street there is a brick wall and along the other side are garages.



Nighttime in the defined area

The defined area was observed during the nighttime to identify possible problems during the dark hours of the day. The patrolling started at 00:25 and was finished at 01:25. During the patrol, the territory was quiet and about 20 male pedestrians were seen walking along the street (one of them was drunk).

During the patrol it was noted that all the main roads are illuminated, however pathways between residential houses were dark and without any lightning.
Based on the observations the following map of dark places in Area 1 was created:



The black areas indicate totally dark places in Area 1. People living in this area are forced to go through this dark area if they want to visit the shopping mall. All of the pedestrian footpaths are without any lightning.

Area 2 had good lightning and only one place was dark.

Main stakeholders

The Municipality

Business organizations – shops, car parks, the casino, the bar

Owners of flats (their representatives)

The Post Office

The Police

Schools

Owners of garages

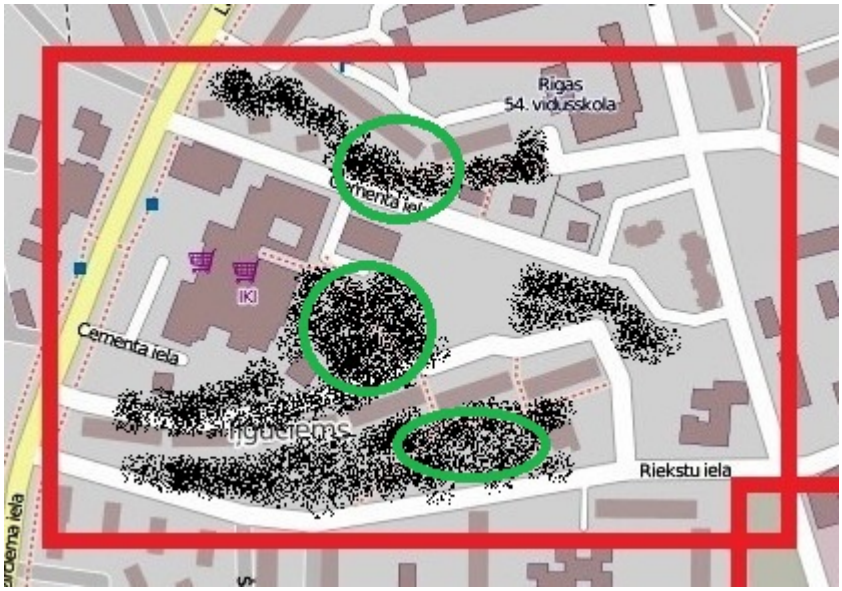
Possible solutions:

Analyzing Territory 2, these possible needs were identified:

1. Investment in the environment (renovating the children's playground and dealing with the graffiti problem)

The playground for the kids was built during Soviet times (green circle) and now has been almost destroyed. The area is not used for its intended purposes and at the moment is unused. Nearby is a guarded car park area. All around the old playground are graffiti drawings. The playground is without lighting during the dark hours of the day.

2. Lighting during the dark hours of the day
   People going to the shops use the pathway without lighting. They have to cross the dark areas (green circles) or make long detours around the zone to get to the shopping mall “IKI”.



Although no crimes were reported in those places, people feel unsafe.
The tunnel through the shopping mall is also dark.

Latvia Group 2

Place selected – Maza Klijanu Street in the City of Riga

Location - Mazā Klijānu Street in Riga is situated in a historic area in central Riga, used as an unofficial street for pedestrians and bicyclists to get from the busiest street of Riga - Brīvības Street and the Gaisa Bridge to Miera Street, the Brasa train station, and the tram stop for tram Nr. 11 in the direction of Ciekurkalns and Mezaparks. The uniqueness of the place consists in the fact that in only 2 minutes people find themselves in a protected territory – the old cemetery (currently not in use), which is a state-protected architectural area with old trees and bushes, and used more as a park, not as a cemetery. Very near this place you can find the bus stops and trolleybus stops of several main transport lines of Riga. The total territory of the Garden and Park "Lielie kapi" is 22 ha. Maza Klijanu Street goes approximately 1.3 km through this park/cemetery and is actually used by people as a street and as a park as well.

Main crime problems - Due to the fact that it is located at the crossroads of these main arteries of Riga, it is used by very different people – workers going to and from the workplace, new mothers, bicyclists, dog owners and others, but it is also used by alcoholics, drug addicts, homeless people and, unfortunately, criminals.
Unfortunately, the official data obtained only partially correspond to the real situation on the ground, since not all the incidents are reported to the State and Municipal Police.

The main problem in the area is use of alcohol in public spaces – people drinking very heavily. Not all of them are reported, but more than 17 different cases are entered in police records in the neighborhood of Mazā Klijānu Iela.
Three cases of the use of firearms in the year 2013, one of them a suicide, were reported. Two official calls to police about homeless people using graves to sleep on were on file. People under police supervision are using the place to spend their time.
Most of the police records are entered between 2 – 3 a.m. During the day time it is relatively safe.
Besides the data obtained by the police, the biggest problem is people feeling unsafe going through this park/cemetery territory.
No light or insufficient lighting is present in the whole territory.

Also unsafe is the crossroad from which to enter into the park from the tram # 11 stop – it is almost impossible to cross it during the day without running (please see the attached pictures)

Most important stakeholders

Municipality of Riga - Vidzeme district

Riga Gardens and Parks (The municipal institution responsible for taking care of all Riga's gardens and parks)

The Lutheran church (*Latvijas Evanģēliski luteriskā baznīca*)

Municipal Police and State Police of Latvia's Brasa district

The City of Riga

The Association of Dog Owners

The City Department of Development

The Road Safety Directorate of the City of Riga

Team objectives for measures regarding the crime problems in the area:

- To strengthen multidisciplinary cooperation between the Brasa District State Police and the Municipal Police of the City of Riga;
- To draw attention to the need for additional patrolling, and possibly for the installation of cameras at the entrances to the park on both sides;

- In cooperation with City Council and other stakeholders, to undertake renovation of the street, including additional lighting along Mazā Klijānu Street;
- To initiate a discussion among architects and landscape architects concerning possible re-design of the area;
- To ensure social control over the zone by paying additional attention to the social partners and their involvement;
- To solve the problem of pedestrians crossing the road unsafely by installing road signs (also consultations with traffic safety specialists).

Estonia

Object

Tallinn-Tartu-Võru-Luhamaa highway, the 184.5th kilometer.

Main problems

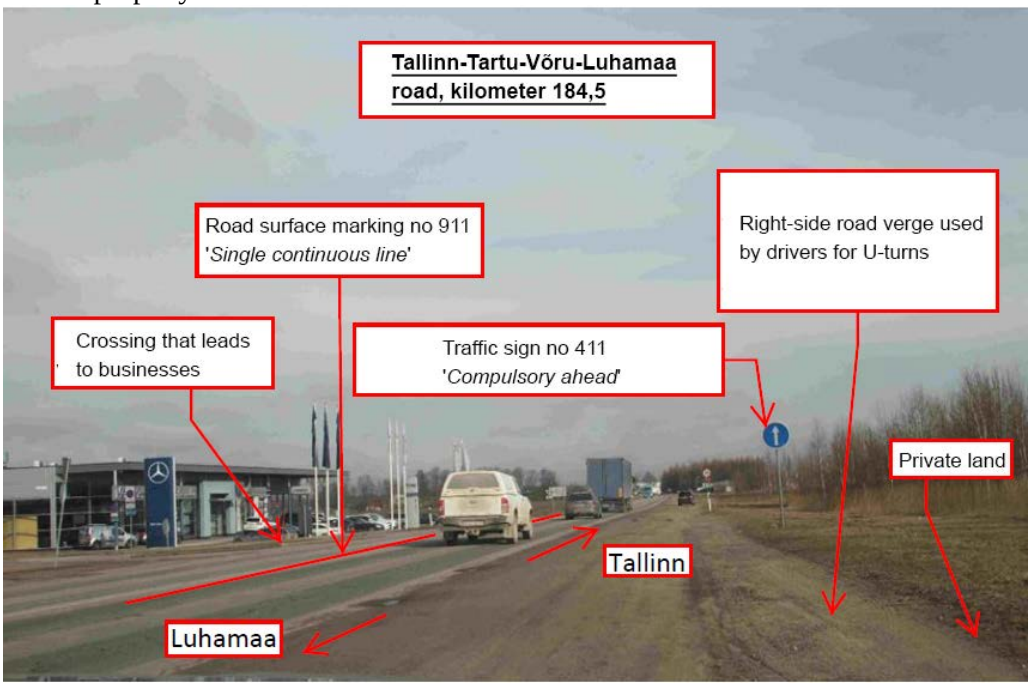
The Tartu highway's 184.5th kilometer is located just before the border of Tartu and it has very intensive traffic. The infrastructure of the road is more urban than highway. There are many enterprises, companies and shops in this area, which attract customers from across the city. Drivers violate the traffic rules often there and create a risk of traffic accidents because there are no required exits on the road or other means of traffic arrangements. Many violations of traffic rules and many dangerous manoeuvres occur (drivers turn left although it is prohibited - carriageways are separated only by a continuous line).

High risk of traffic accidents.

Damages to private property (land).

Stakeholders

Road users
Police
Local governments
The Road Administration
Enterprises (The owners of enterprises, shops and manufacturing businesses)
Visitors to the enterprises
Private property owners



Object

Four store buildings in Pärnu County, at Liiva Street 8d and its surroundings, which is located in the city of Pärnu. Apartments in the building are rented out by the city as municipal social housing.

Main problems

High criminality in a residential environment which supports the commission of crimes, the local security company does not meet the operational requirements, and other residents of Liiva 8d do not feel safe.

Stakeholders

Residents of Liiva 8d

People living in the neighborhood of Liiva 8d

Visitors and workers of the organizations located in the neighborhood

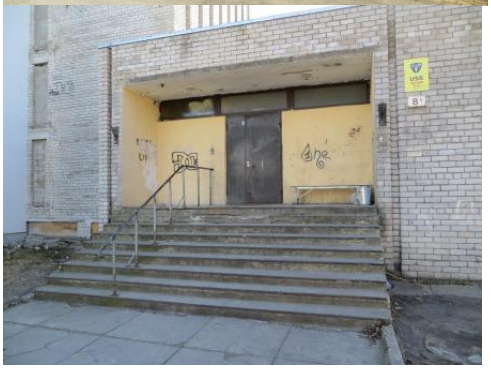
The City Government of Pärnu

The security company which offers services to Liiva 8d

Pärnu Police Constabulary

Pärnu Ambulance

Rescue Board



Object

Tallinn, Old Town, and its adjacent streets.

Main problems - in the densely populated area of this district, there are, in the same premises and adjacent buildings: (tourist) accommodations, bars, restaurants, and nightclubs. Offences against property, with guests and owners of places of entertainment being victims, are frequent. There is increasing “settling of accounts” between taxi companies in connection with the shortage of parking spots.

Stakeholders

District residents/ locals

Owners of enterprises located in the district

Local government and municipal institutions

Local police

Health Board

Rescue Board

Object

In East-Viru County, the City of Narva, Joala Street 8, is located the Gerassimovi and Võidu Parks area, which forms a single green space covering approximately 7 hectares. Spacious gardens surround the dominant building located in the center – the V.Gerassimovi Palace of Culture.

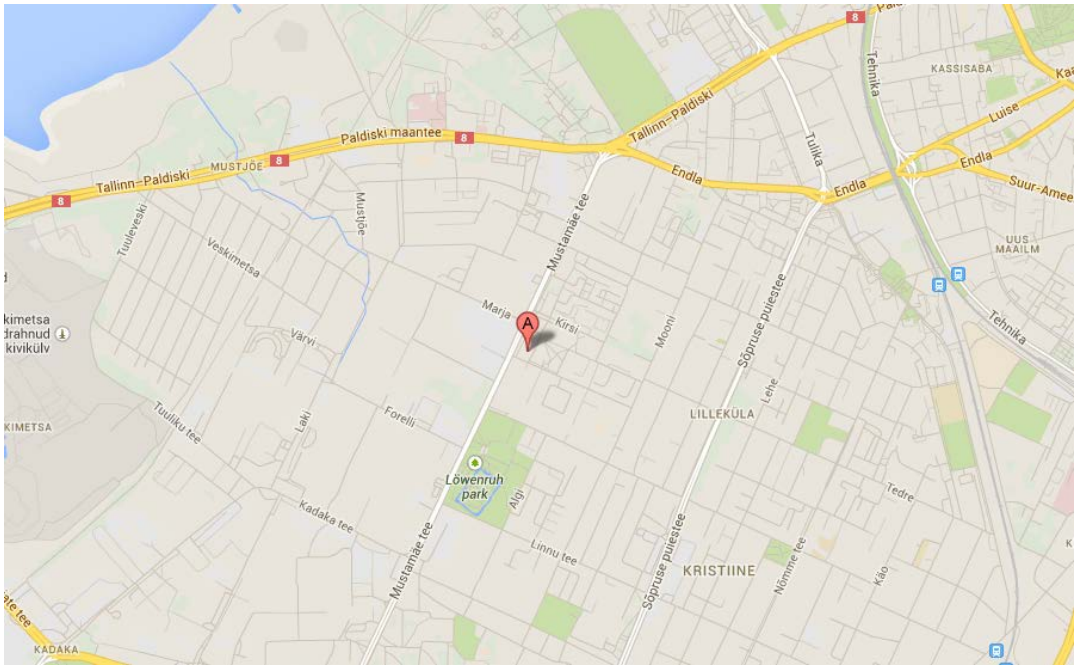
Main problems

The building has been vandalized and has a derelict appearance. The building is in a dilapidated state - in some places there are no doors or windows and the colour has worn off of the walls. This abandoned building is used by local young people in the evenings, where they consume alcoholic beverages and tobacco products, as well gaverinas drunks and drug addicts in the evenings. The owner is not interested in the restoration of the building.

Stakeholders

In solving this problem and increasing the security of the area, the interested parties are:
The Police
The Local Government
The Gerassimovi Palace owner Diamondome LLC (the building is where the commission of the offenses occurs)
Narva Kreenholmi Gymnasium (students commit violations with cigarettes and alcohol, since the way to school / home passes the park).

Marja centre in South-Tallinn:



Our subject is a hall called Marja Center, the location of which is in the Kristiine area, on Mustamäe Street 45, Tallinn. The area size is approximately 500 square meters.

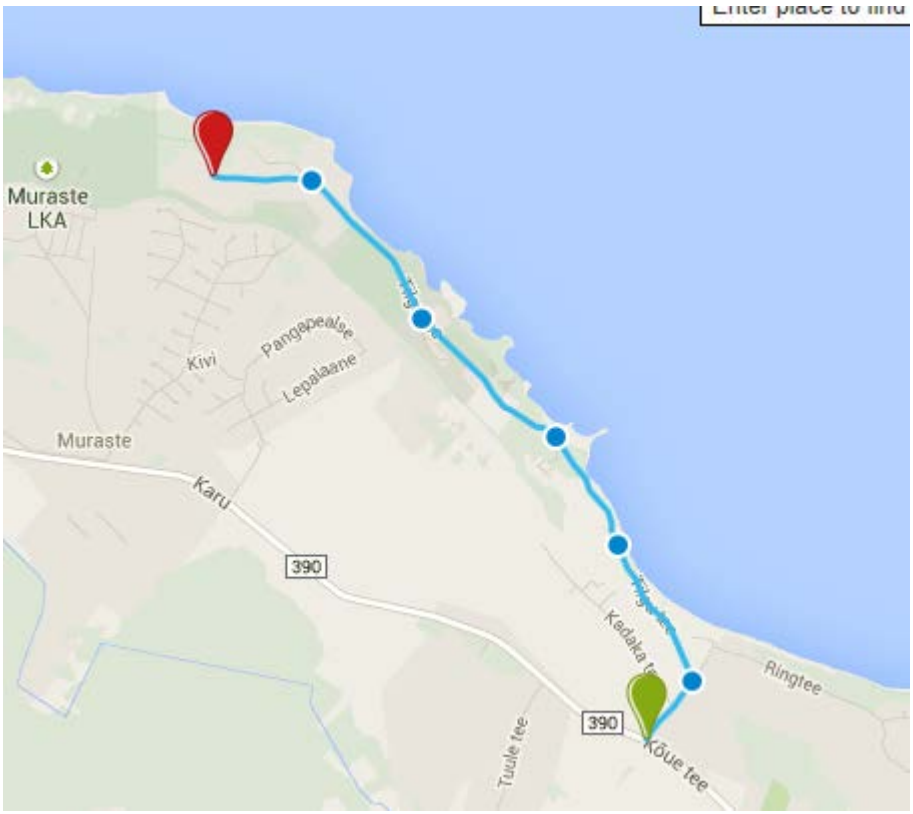
Main problems

Drunken people are constantly gathering. This situation encourages fights, thefts, violations against public order, and mistreatment of private property. There are also big traffic and parking problems now and will be in the future also. Because of the

new buildings, population density and the number of problems are rising in this small area.

Object

Tilgu Road in Harju County:
Tallinna-Rannamõisa-Kloogaranna Highway and Tilgu Road up to the Police and Border Guard College of the Estonian Academy of Security Sciences, situated at 55c Tilgu Road, Harju county, Harku Rural Municipality, Muraste village.



On the 4 km Tilgu Road there are several contradictory markings and signals. Problematic traffic signs or signs with different interpretation possibilities have been installed (holding positions are installed on both sides of the curve and if meeting on the curve, vehicles might not have enough space on the road) and the road striping is different from usual.

Main Problems

Speeding; the “road warriors” consider themselves to be the "masters" of the road and they don't comply with the requirements of the Traffic Act. The road is strategically vulnerable. There is bad access for op-services, because it is the only access. Road striping is incomprehensible and unfamiliar. There is no space for the big vehicles in waiting.

Priisle market in East-Tallinn:

Our group picked the Priisle market and it immediate surroundings, located in Tallinn, in the eastern part of the Lasnamäe district. Priisle market is situated between panel housing areas to the east and west and also between wasteland areas from other sides. The market is located on the territory of the Priisle Center, which consists of the open-air marketplace and some indoor commercial space. The market is accessible by public transport and car from Priisle Road and by foot from the wastelands and the panel houses. The market has an overall image of an unkempt market, which gives it a negative stigma. The market is under the jurisdiction of the East Police Station of the North Prefecture. The time for police to reach the place is 8 minutes, with a distance of 4.3 km.

Main problems

- Serious or notifiable offences and no notifiable offences (where the police are not informed of offences committed in this area)
- Antisocial behavior and minor conflicts (may or may not be reported or recorded by public agencies)
- The fear of crime and feelings of unease in the environment, which are linked to the characteristics of the area.

Stakeholders:

- Local residents
- PBGC personnel, including students
- Guests
- Recreational sportsmen and professionals
- Tilgu port users (fishermen, owners of pleasure craft)
- The Estonian Road Administration
- The Harku Rural Municipality Government
- The Environmental Board
- Conservationists
- The Municipality of Põltsamaa and the Adavere Basic School and Kindergarten
- The South-Police Prefecture in Jõgeva
- The Adavere Manor Community
- The Jõgevamaa Local Government Association
- The Kristiine City Council
- The Health Board
- The Rural Municipality Police
- Regional police stations
- The city administration
- Municipal Services
- The Tallinn Social Welfare and Health Care Board
- Owners of the market, local municipality vendors and buyers

Assignment for Module VI

In the task for Module VI, participants were assigned to choose a specific plan, familiarize themselves with it, and give CPTED comments on the plan, and to convince others to follow their recommendations. Each group chose a plan from their own city or region. It had to be a plan for a new area or district or a major extension and refurbishment of an old district. The plan had to be larger than one or few lots and it had to include new buildings, not only traffic planning.

After making a definite choice for an area, all planning materials concerning the project were gathered together and explored:

- The plan map
- The legend
- Written texts that motivate the plan
- Other documents, such as illustrations, artist impressions, marketing materials, environmental and social impact assessment

After gathering planning documents analyses were made. The following aspects were analyzed – the urban context of the plan, the planned area, its boundaries and size, the type of development, the stakeholders, the time-frame and a rough estimate of the budget.

Possible crime risks and generators of feelings of insecurity were discussed as well as positive aspects of the plan. Commenting on the plan was based on the CPTED principles:

- Territoriality
- Surveillance (natural or technical)
- Access-control
- Target hardening
- Image and maintenance
- Facilitating positive use

The last step of the task was to think out a strategy as to how to introduce new ideas to the key stakeholders of the project and to write a letter to the most relevant stakeholder to present the CPTED recommendations.

The European Standard CEN process and the SafePolis manual were used as guidelines for this task.

Finland

Overview

The planning area that is being reviewed is located in the province of Kanta-Häme in the city of Hämeenlinna. The distance from the center of Hämeenlinna to Helsinki is approximately 100 kilometers and to Tampere approximately 75 kilometers. The population of Hämeenlinna is roughly 68,000 and the population density is 38 residents per square kilometer. About 63% of the population is aged between 15 and 64 years. The vast majority of the population - 97% - is Finnish speaking. The most significant employers are the state and the public corporations.

The city of Hämeenlinna acquired the area of Keinusaari in 1819. The land was mostly stony, although crops were grown to some extent at that time. A plan of the Keinusaari area was completed in 1922. A cloth factory operated in the area for a long time, which however stopped functioning in 1963.

Image 1. Keinusaari, Hämeenlinna (Source: Google maps 2014).

Keinusaari is located in the 5th Borough of Hämeenlinna, approximately 1 kilometer southeast from the center of the city. The area is bordered in the north by a road called Viipurintie, in the west by another road called Keinusaarentie, in the east by rural areas and the main railway of the VR-Group Ltd., and in the south by the rental area by the heating plant of Keinusaari and a road called Vanajatie. The name of the plan

is *The plan and the plan modification of Keinusaari (Keinusaari 1*). The acreage of the planning area is approximately 8.2 ha, of which a major part is owned by the city.

The planning goals of the area

The goal of the plan and the plan modification for Keinusaari is to regenerate the still rather unbuilt area and to improve the district of Keinusaari as a central hub of the area, and also to reinforce the whole townscape. The forthcoming construction of the Keinusaari territory will strengthen the whole neighborhood of the station region and also integrate it into a whole.

A direct continuation of the residential, business and employment area of Keinusaari I is being designed so that it extends into the area of Keinusaari II. The goal is to design a versatile neighborhood defined by its residential structure - mostly consisting of apartment buildings - that will rely on the wide-ranging services of the close surroundings and the city center and on the good traffic network.

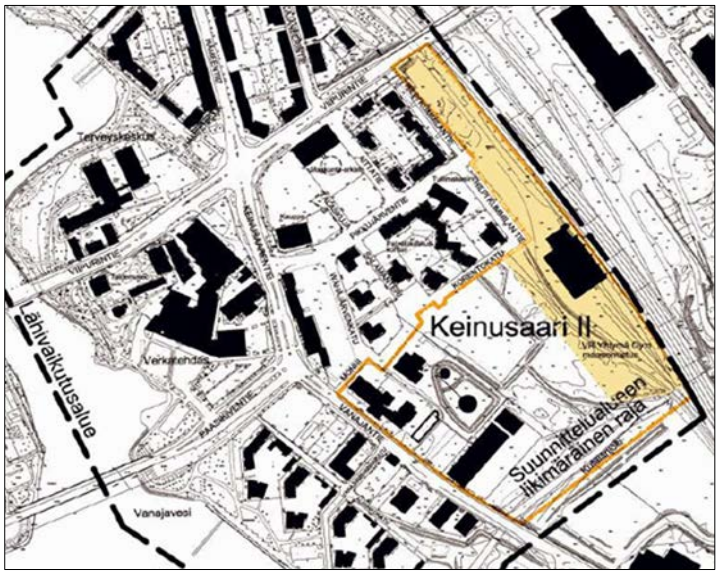


Image 2. Keinusaari II, Hämeenlinna.

The planning of the area aims to improve the versatility of the neighborhood of Keinusaari through its residential, service and employment possibilities. The aim is to achieve quality and diversity in an urban living space. Requirements for creating a Senior's Service Center and versatile accommodations for seniors by Pikkujärventie,

close to the old customs house, are presented in the land usage solution in the plan and the plan modification. Providing a grocery store in Keinusaari is an important concern for all services of the station region.

In the plan a new land plot is shown in the corner of Viipurintie and Keinusaarentie and a new building site for building new businesses and offices is shown at the beginning of Pikkujärventie. The Provincial Archives is prepared to be placed on the plot of public buildings, situated on the corner of Viipurintie and Aittatie. In Keinusaari the goal is to achieve a pedestrian-oriented, clear and safe urban street environment.

The base of the region's urban structure and image are formed by the business-, office- and public building plots as well as the residential blocks, located in the inner parts of the area. In the street milieu of Pikkujärventie a boulevard-like and lush general appearance is pursued, which is an important aspect when it comes to the whole area's identity. The small street squares that join the street environment of Pikkujärventie and Aittatie also have their own role in the character of the neighborhood.

The total floor area indicated in the plan suggestion is approximately. 45,100 square meters, of which 25,000 m^2 is indicated for the block areas of the apartment buildings, 14,100 m^2 for the block areas of the business- and office buildings and 4,500 m^2 for the block areas of the combined public buildings, business and office buildings and residential buildings. In addition, 1,540 m^2 of floor area is indicated for the block areas of the parking spaces. An estimation of 500 new residents was made based on the amount of residential floor area. The land usage mapped out in the plan suggestion is divided into block areas of apartment buildings (2.8 ha), block areas of business and office buildings (1.1 ha), block areas of combined public buildings, business and office buildings and residential buildings (0.5 ha), traffic and street areas (2.9 ha), block areas of specific areas (0.5 ha) and parks (1.7 ha). In the planning documents it is not directly mentioned that the planning principles of the CPTED approach have been taken into account. Some elements that are linked with the CPTED planning principles, however, have been noted in the planning documents and the pictures in it.

Surveillance

Apartments are planned for a population of around 400-500 people in the area of Keinusaari II. The residential buildings designed for the area are apartment buildings. In the planned solution the block structure forms a clear outer border in the east, west and south sides of the neighborhood. In the east and south sides the residential buildings are connected to each other by one-story high outbuildings. These outbuildings protect the yard areas from the noise of traffic.

Image 3. Keinusaari II, block 42.

Keinusaari, mainly designed for residential use, is located near the center of Hämeenlinna city, which is reflected in the lack of the neighborhood's services. One grocery store is planned for the area. On the basis of the plan it is obvious that natural surveillance will be created in the area by the people who move and spend time there. There are two nursery schools located near the area: in the east a new nursery school, Kutala, in Hätilä by Kutalantie Road, 1,5 km away, and in the center there is Kaivokatu Early Childhood Education Center by Birger Jarlin Katu Road, 2km away from Keinusaari. There are no activities or services in the area that would invite outsiders into the area.

The neighborhood's apartment windows and balconies are placed so that one doesn't have visual contact with all points of the compass. For example, in the buildings located on the northern side of Keinukatu there are no windows or balconies facing

towards the street. According to the CPTED approach the windows and balconies of apartments and companies should be placed so that people could keep an eye on public traffic from them. Generally speaking, the properties' windows, balconies and exterior doors in Keinusaari are mainly designed to enable the surveillance of the hierarchical spaces.

The apartment building complexes are planned rather loosely in the existing surroundings. The outer buildings of the neighborhood form borders for the sheltered inner area. In addition to residential buildings, a slow street is planned for the inner area. The surroundings of the residential buildings are planned in a way such that they partly form borders for the sheltered inner court. Due to the layout, visual contact from outside of the buildings into their inner areas is restricted. The activities in the yards can be supervised from inside the apartments.

The hierarchical spaces are in some places unclearly bordered. There are spaces inside the area that don't seem to have clear borders between different spaces. It is mentioned in the residential area's planning documents that the yards between the housing complexes are not bordered by fences, which is a problem from the surveillance point of view. Moving between the hierarchical spaces doesn't happen gradually. According to Oscar Newman (an architect and a city planner who was one of the originators of CPTED concept); he authored a book about defensible space theory, *Defensible space* 1972), surveillance of the spaces and people's desire to protect them are boosted by clearly bordering the spaces. These elements also have a positive effect on preventing crimes.

There are no unspecified, owned-by-no-one land areas left in the plan. According to the CPTED approach, the plan should be dense, with no unspecified areas or areas owned by no-one. The areas owned by no-one are usually unsupervised and with time could develop into, for example, hangout places for antisocial people. Disorder causes fear of crime in people and also exacerbates crime.

The apartment building complexes are mainly large in size. The number of apartments, hence also the number of residents, affects how well the people living in a housing complex know each other. Housing complexes consisting of tens of

apartments feed anonymity, which weakens the social control created by people. According to the CPTED approach, a neighborhood should consist of small, separate and private communities.

The inner courts of the housing complexes are able to be supervised from within the apartments and the yards. Based on the images shown in the plan, the entrances are located in the inner and front yards of the buildings. According to the CPTED approach, the entrances should be placed on the street side, close to the pedestrian routes so they could be supervised both from the private and public spaces. There are no family apartments planned in the residential area. With families with children the usage of the yard areas usually increases and therefore there is more natural surveillance. Now there is no functional playground or areas for sports etc. planned for the yard areas, which results in less natural surveillance.

The parking places meant for the residents of the apartment buildings are mainly located in carports and also by the streets. There is a lack of visibility from the apartments, yards and streets to the parking places. The parking areas are bordered from the public space with a shed. Vegetation is planned alongside the parking areas. It is important, when it comes to vegetation, that it should not hinder the preconditions of surveillance. Wrongly-designed vegetation decreases lighting and prevents visibility of the parking areas. The spots designated for cars have a crucial relevance to the chances of a car getting robbed. According to a survey by Beilinson et al., in open parking areas and street parking spaces for cars, there is a 3-5 times higher risk for vehicle crimes to occur than on one's own yard. In the survey it is also stated that good lighting reduces the risk of car robbery by 50%. The lack of visibility from the apartment to the parking place increases the risk of crime by 150%.

There are three park areas located near the residential buildings. The natural surveillance of the parks mostly occurs by the people spending time there.

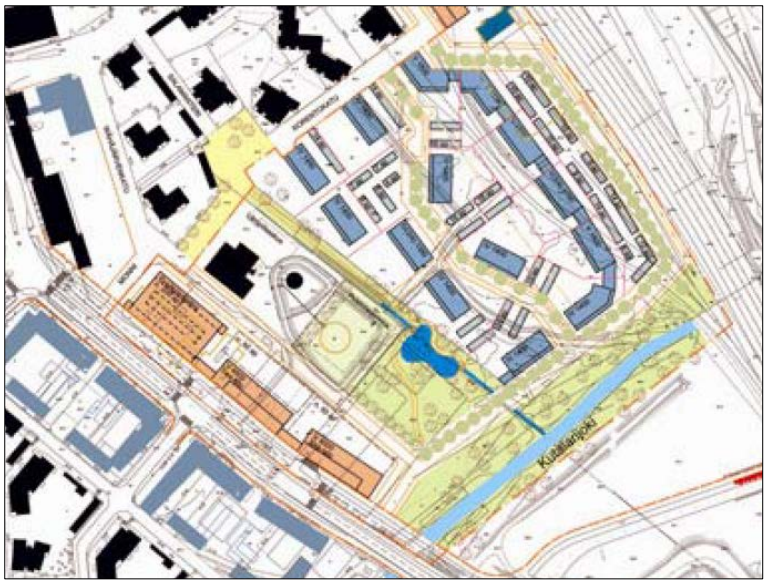


Image 4. Greenspaces of Keinusaari.

When looking at the planning documents, it's hard to say whether it's possible to supervise the parks from the spaces around them. Markus Felson (author of the book *Crime and Everyday Life, 2002*) has noted that the parks in the middle of the residential areas look classy in the architects' drawings. When finished, however, the parks might turn into troublesome hangout places for restless youngsters, contrary to the original purpose. Therefore preferably the parks should be placed on the edges of the residential area.

According to the planning documents, several roads go through the residential area. The roads are planned close to the residential and business buildings, from where one is able to see out to the roads. Mostly the traffic is channeled to the perimeters of the area, although there will be traffic leading to the properties on the slower streets as well.

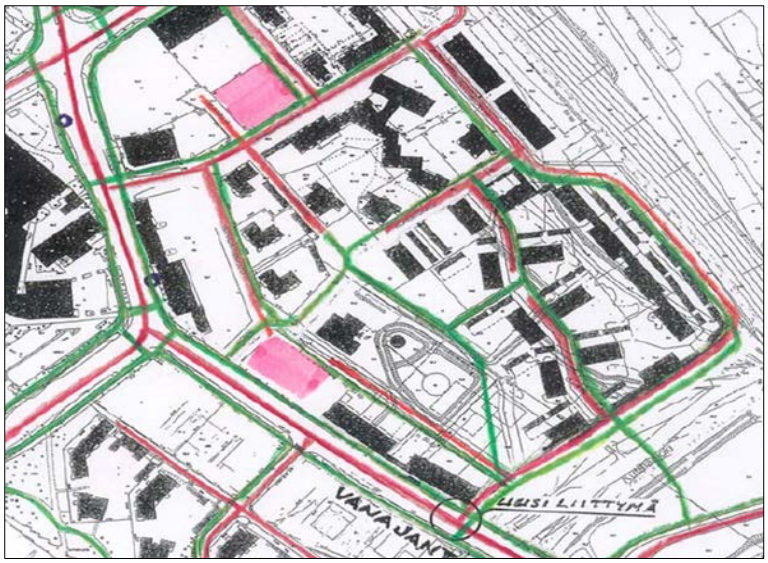


Image 5. The traffic structure of Keinusaari.

Speed bumps are planned on some roads. The road network doesn't support the specifics of the neighborhood. The roads are two-way roads which allow the traffic to be busier than it would be if the roads were one-way roads. According to the CPTED approach, the people driving vehicles can be utilized for the surveillance actions of the neighborhood. Vehicle-drivers create natural surveillance in and around the neighborhood while driving slowly.

There is a possibility for pedestrians and cyclists to enter the yards of the residential buildings and also a route for rescue vehicles. A slow street slices through the residential building area, which increases the traffic into the area and therefore improves the natural surveillance. A route to the park areas for bicyclists and pedestrians is reserved for the middle of the residential building area.

The planning area is bordered by the busy main roadways of the city: Viipurintie, Keinusaarentie and Vanajantie. The planning area's traffic relies on the roads Keinusaarentie St. and Vanajantie St. In addition, there is a roadway connection from the railway station into the neighborhood going under the bridge called Viipurintiensilta. A planned extension of Paasikiventie Road will run by the southwest border of the planning area, which will lead under the main railway in the future. The main railway is located on the east side of the planning area. Fluid public transport runs out of the area. The local bus lines now travel on Viipurintie,

Keinusaarentie and Vanajantie, where bus stops are also placed. The main routes for pedestrians and bicyclers run by the planning area on Viipurintie, Keinusaarentie and Vanajantie.

Illuminated routes for pedestrians and cyclists are mainly located by the roadways, which are also illuminated. There is good visibility from the roads to the surrounding environment and conversely the visibility from the houses near the roads into the roads is good. According to the CPTED approach, the routes for pedestrians and cyclists should be straight and well-illuminated with good visibility from the surrounding environment and vice versa. The vegetation by these routes should not block visibility or create dark spaces by their quality or condition. Darkness and bad visibility provoke fear of crime in people – people don't willingly move around in places connected with fear elements. Usually they choose an alternative, safer route instead of an intimidating one.

Access control

Evaluated as a whole, the neighborhood has been clearly bordered into a unique area by planted trees, carports, infrastructure and parks. There is free passage to the area along the public roads. According to the planning documents it is assumed that traffic passing through the neighborhood will not occur frequently. Unnecessary traffic deteriorates access control in the area.

Six-story-high apartment buildings are quite tall in comparison to apartment buildings generally, and increase the population in each building. Taking this fact into account, the outsiders moving around the yard areas are probably not paid particular attention. Even in the apartment building one lives in there are more than enough people to get to know, which means one simply cannot get acquainted with everybody. Access control is weaker when it is possible to enter the buildings from different points of the compass. Therefore one cannot directly say whether a person in the area is coming or going and where exactly. That means organizing technical surveillance becomes more challenging.

The locking of houses and other mechanical solutions that would improve access control were not mentioned in the planning documents.

According to the planning documents, fences, bushes and changes in street material are utilized in bordering the spaces. However, the hierarchical spaces are not clearly marked universally. According to the planning principles, fences should not be used on the borders of the yards, because they make the surveillance of yard areas challenging.

The roads leading to residential plots are planned so that there is a visual connection to the roads from the surrounding environment. The pedestrian routes are mainly located by the roadways. The stairway entrances to the apartments are generally marked clearly by symbols and technical building solutions. The roads to the plots mostly lead to a dead end. The dead end-solution limits the number of vehicles traveling on the roads.

The parking places of the residential blocks are organized as on-ground parking. For the residential buildings closest to the railway a common block area for parking is indicated, where the carports also work as traffic noise blockers from the direction of the main railway. In the inner parts of the residential blocks the parking places are located sparsely in small units as close to the apartments as possible. Access to the parking places happens from many directions. The principles of the CPTED approach specify that parking areas should have a minimum number of incoming and exit routes for pedestrians and vehicles. This way these routes can be monitored in an effective way. Routes or paths for the pedestrians through parking lots should be avoided. (Reference to: Wrexham County Borough Council 2003.)

Territorial reinforcement

The neighborhood is located in isolation as a private area, which may appear as original and attractive when it is completed. The area's history is interesting, and has also been exploited while working on a plan for the area's image. The area's location near a lake and in a park-like environment creates a positive overall impression of the area. When it comes to the image, the railway running next to the area might be a

deleterious factor because of the noise. Blocking noise has however been taken into account while working on planning the residential area.

On the basis of the planning documents, the buildings in the inner part of the residential blocks are planned so that their directions vary and therefore the street views are diverse and interesting. According to the CPTED approach the buildings of the residential area should be unique in shape, outer materials and colors, as this improves people's desire to take care of their own area.

Image 6. The Keinusaari buildings' yard areas.

The parks located in the area create an opportunity for specific hobbies in the existing residential environment. In the plan there are no common spaces or playgrounds in the yards of the apartment buildings, through which communality and intercourse between residents could be achieved. These give a reason to stop for a while, which makes getting acquainted with one another easier. Activities as diverse as possible should be built into the residential area so that people would spend as much time as possible in their own residential area, according to the planning principles of the CPTED approach.

Bordering the spaces has been executed inadequately. People tend to mark their territories. By marking a territory, one shows other people that the space is theirs. The blocks and housing complexes in the residential area should be built, landscaped and

bordered into unique areas. Unique areas would separate from the rest of the environment into various configurations in a positive way, which would in part also improve the development of territoriality. By marking the places it becomes clear who takes care and who is responsible for the places. Marking also enhances the social control among people and leads people's behavior in a desired direction.

Maintenance

When it comes to maintenance, the planning cases are so sketchy that it is difficult to create a clear idea of actions supporting the maintenance principles that will be executed in the area.

Generally speaking, maintenance of the physical environment gives the impression to the people living and moving there that the area is under somebody's control, it's taken good care of and it's safe to move around in the area. Maintenance of the environment also supports other planning principles of the CPTED approach. On the planning phase for maintenance, the special features of winter and large amounts of snow – which challenge the CPTED-operation - should be taken into account.

The lighting of the neighborhood supports the planning principles of the CPTED approach. There is no separate plan written out concerning lighting.

Easily cleanable, repairable and replaceable materials should be utilized in the buildings, fences and other physical structures. For example, the wall surfaces on the buildings should be easy to clean from graffiti or other smudge. According to the planning documents, the housing complex's carport walls are facing the street. They should be planned in a way that prevents spraying graffiti on them.

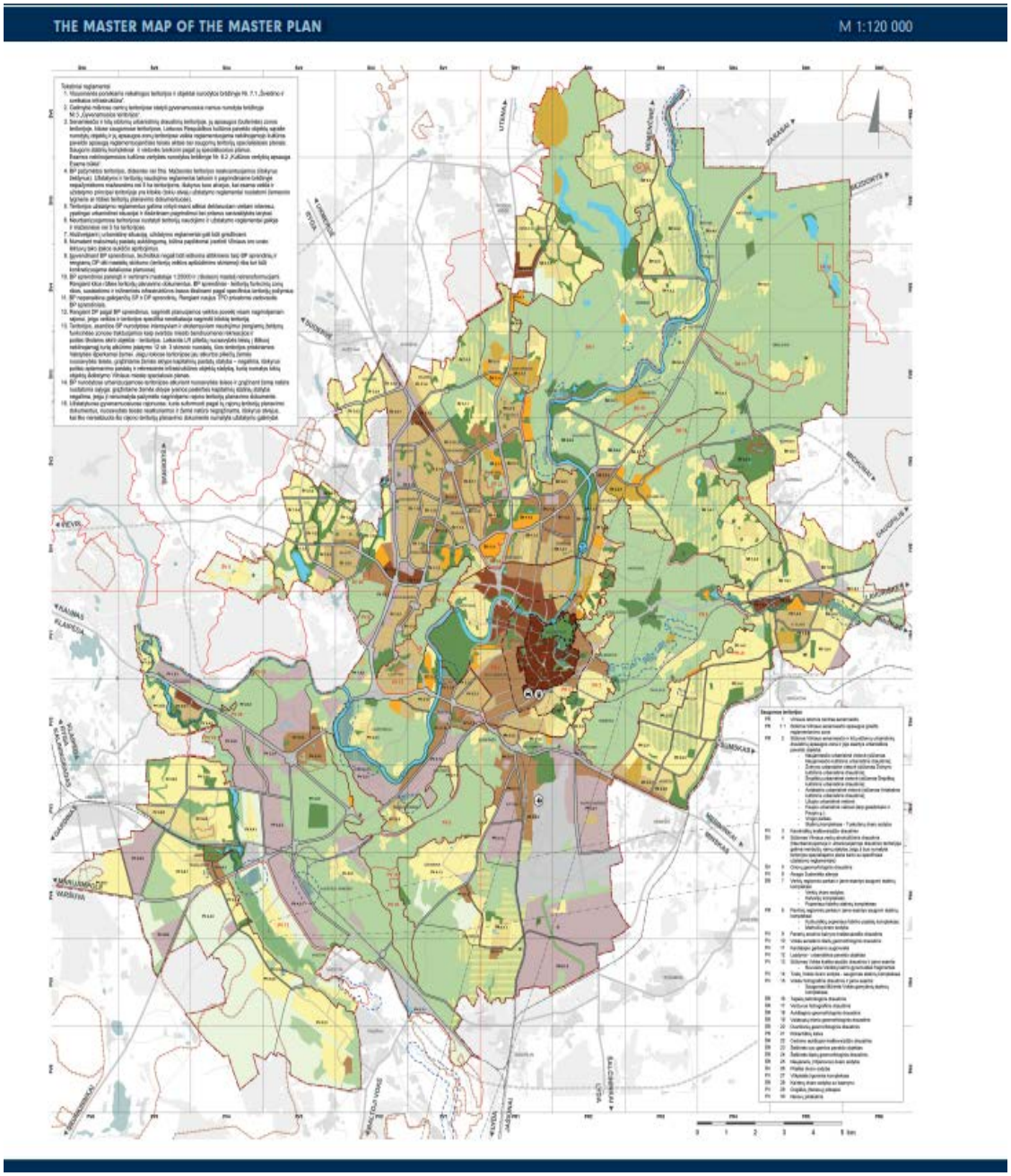
The locations of garbage cans placed in the public and semi-public places are not mentioned in the planning documents. Garbage cans improve the tidiness of the area. According to the CPTED approach's planning principles there should be signboards in the area indicating who is responsible for each area, which would improve the maintenance of the surroundings.

Lithuania

PERKUNKIEMIS VS VENECIJA – LESSONS WE HAVE TO LEARN

The Master Plan of Vilnius

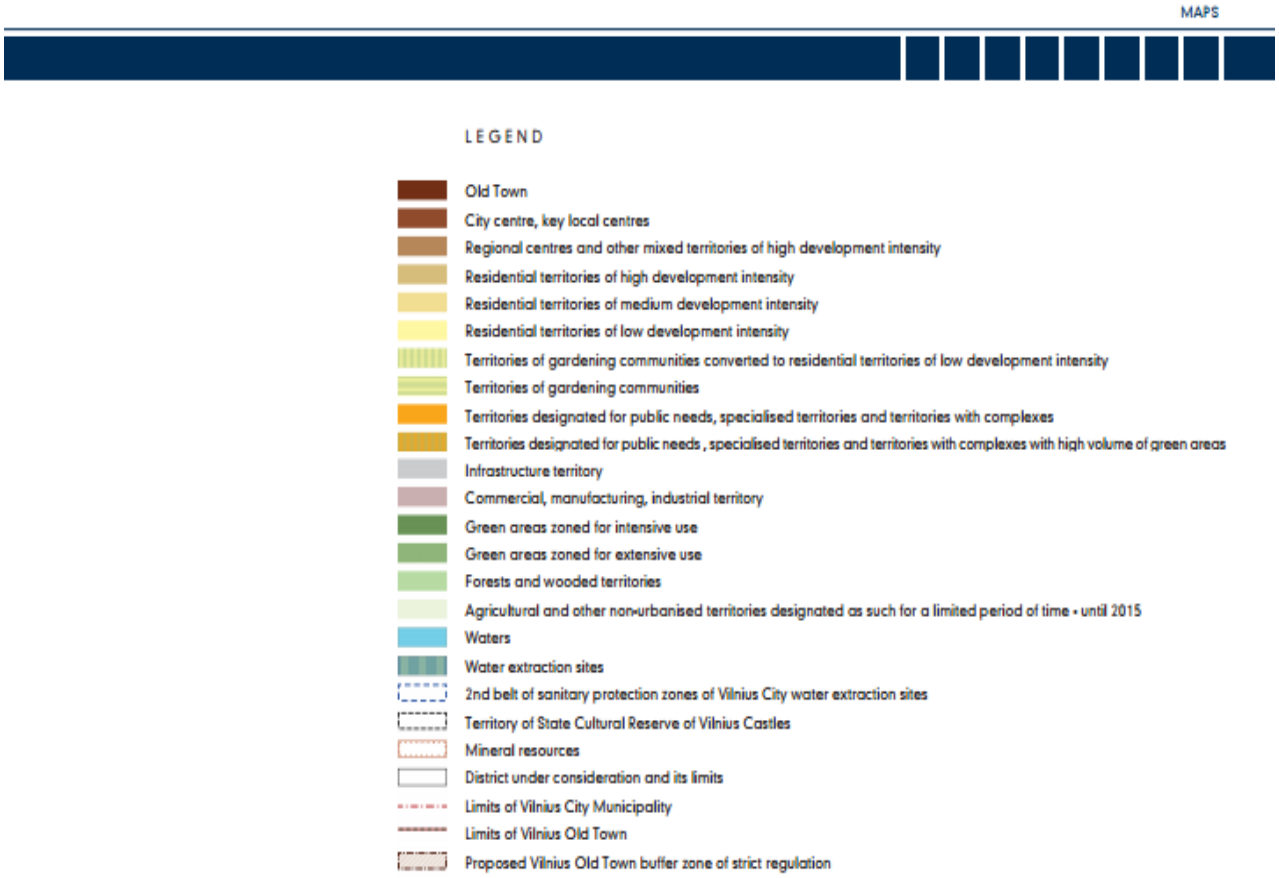
The actual master plan (MP) of Vilnius was created and approved by the Council of Vilnius City Municipality in 2007. The MP defines urban spatial development guidelines up until 2015. It includes the development directions and priorities of the City of Vilnius. At this time the MP is in the process of being improved, and after some corrections the validation of the MP will be extended. Below we present the main map from the Vilnius MP.



As one can see on the map, the whole city is divided into different zones, with different functions, purposes and of course special requirements for each part of the city. It means that the city authorities define the main rules for the successful development of the city for the purpose of creating a safe, comfortable and attractive city. Unfortunately, during the preparation of the plan, the main CPTED principles were not used, or used partly and sporadically. Crime problems, which our community faces today in the newly developed areas, push us to make a deeper analysis of the MP in the CPTED context and create recommendations for improving the MP to strengthen the development of the city in ways closely related to the CPTED plan.

The legend of the MP

If we try to clarify the MP, trying to understand it better, we have to explore the legend of the MP and find out what each color or mark on the draft means and what requirements have been set for each zone .



The regulations table of the master map of the master plan (MP)

The main requirements for territories marked in the MP are contained in the regulations table of the MP. They have an important role in the planning process of every concrete area, and during the planning process planners should follow them. In the regulation table are listed the main requirements for existing and new-development areas. The main criteria are the recommended structures of the territories, the maximum development intensity, and the maximum allowed height of buildings.

Name of the territory (functional zone)	Notation	Predominant characteristics of the territory	Possible key land use designations and land use ways	Recommended structure of territories, %			Regulated parameters for territories marked in the Master Plan (MP)	
							Development regulations (applicable to new developments) • Taking into regard urban situation, development regulations can be made more stringent; • Additional evaluation of height limits in Vilnius airport runway impact area is required, when determining maximum building height; • Textual regulations No 3 indicate areas (PR1; PR1.1; PR2 and others) and their buffer zones, where development regulations are defined by legal instruments that regulate protection of immovable cultural properties, and by special plans of protected areas.	
				Residential with communication corridors	Public use green areas	Social	Maximum development intensity, UI, in plots u_{max}	Maximum building height h_{max} (not applicable to technological installations)
1	2	3	4	5	6	7	8	9
URBANIZED TERRITORIES								
Territories suitable for residence:								
The Old Town		Mixed Old Town territories subjected to special protection requirements. Prevailing residential, commercial and public activity.	• Conservation designation (only in territories of protected objects); • Other designations: - residential territories; - public use territories; - commercial use territories; - engineering infrastructure use territories; - recreational territories; - common use territories.					
City centre, key local centres		Mixed territories of key city centres, subjected to special requirements with respect to architec-ture of buildings and public spaces. Prevailing residential, commercial and public activity.	• Conservation designation (only in territories of protected objects); • Other designations: - residential territories; - public use territories; - commercial use territories; - engineering infrastructure use territories; - recreational territories; - common use territories.	10-50	>8	>10	≤3,0	Up to 35 m (planning of high-rise buildings permitted in case of a special plan (SP) of high-rise buildings)

1	2	3	4	5	6	7	8	9
District centres and other mixed-use territories of high development intensity		Mixed territories of high development density in other multifunctional centres. Prevailing residential, commercial and public activity (new residential developments in the centres of soviet high-rise housing blocks is not promoted).	• Conservation designation (only in territories of protected objects); • Other designations: - residential territories; - public use territories; - commercial use territories; - engineering infrastructure use territories; - recreational territories; - common use territories.	10-50	>8	>10	For plots of residential designation ≤1,6 (≤3,0 for non-residential designation)	Up to 35 m (planning of high-rise buildings permitted in case of a SP of high-rise buildings)

1	2	3	4	5	6	7	8	9
Residential territories of medium development intensity		Mixed territories, with prevailing residential activity, alongside with the required supporting social, service and other infrastructure.	• Forestry designation; • Other designation: - residential territories; - public use territories; - commercial use territories; - engineering infrastructure use territories; - recreational territories; - common use territories.	>70	>10	>8	For plots of residential designation ≤0,8 (≤2,0 for non residential designation)	≤4 levels
Residential territories of low development intensity (including territories of gardening communities under conversion to residential territories of low development intensity)		Mixed territories, with prevailing residential activity (low-rise single-unit and residential high-rise multi-unit developments), alongside with the required supporting social, service and other infrastructure.	• Agricultural designation (residential environment- friendly organic farming); • Forestry designation; • Other designation: - residential territories; - public use territories; - commercial use territories; - engineering infrastructure use territories; - recreational territories; - common use territories.	>70	>5	>8	For plots of residential designation ≤0,4 (≤1,2 for non residential designation)	≤3 levels

Residential territories:		The following developments are allowed in residential territories: • Residential buildings; • Mixed use residential and small business, trade, crafts and services facilities; • Dormitories, hotels, child care homes and old people«s homes, residential care homes; • Public use green areas; • Public use facilities of social designation and other facilities (schools and other educational institutions, kindergartens, nurseries, etc., retail outlets and other services facilities, sports grounds and children«s playgrounds); • Small businesses; • Communications corridors (streets, accesses, engineering infrastructure); • Public utility facilities. • Other facilities not mentioned, causing no negative impact on the quality of residential environment.					
Residential territories of high development intensity		Mixed territories with prevailing residential activity (high-rise multi-unit residential developments) alongside with the required supporting social, service and other infrastructure.	• Forestry designation; • Other designations: - residential territories; - public use territories; - commercial use territories; - engineering infrastructure use territories; - recreational territories; - common use territories.	>60	>15	>8	For plots of residential designation ≤1,2 (where maximum height is ≤9 levels, DI≤1,6) (≤2,5 for non-residential designation)	≤5 levels (up to 20% of the total height in a residential territory is allowed to be between 6 and 9 levels)

Two different types of newly-developed areas – Perkunkiemis vs Venecija

In this part of the publication we analyze two different types of newly-developed areas and try to find out why the crime situation is so different in these areas and what lessons should be learned by urban planners and developers. We compare two areas: Perkunkiemis, which is located on the northern boundary of Vilnius, and Venecija, which is located in the southern part of the city. We hope that this analysis helps to discover the correct way of developing new areas and to avoid some mistakes in the future.

Perkunkiemis

As we have mentioned, this area is located on the north side of Vilnius. The area started to be developed in 2005. It is one of the latest mostly residential areas to be developed in the city. Development of this area stopped in 2008 and wasn't renewed during the financial crisis, but started again in 2014. Today development is continuing and new buildings are under construction. After the arrival of the first residents in 2006, police have seen an intense boom in crimes and misdemeanors. The number of crimes in this area grew proportionally with the arrival of new residents. Mostly these are crimes against property - thefts and robberies. This situation pushed us to look for the main reasons why in this new area, where one can even find some of CPTED principles realized, the crime situation is the same as in the old districts, developed 20-30 years ago without any input from the CPTED. In our opinion, the main reasons are: the MP for the city of Vilnius wasn't developed taking into account all the needs of the residents. The residents are highly transitory and not united into a strong community with all its internal safety functions. The property (cars in the underground parking areas, items in the sheds, bicycles etc.) is kept irresponsibly, and there is a lack of security measures (fences, limited entrances etc.) necessary for a residential territory of high development intensity. On the maps below we present this area and its location on the MP of Vilnius.

Main facts:

Area – 15 ha

Number of houses – 33 (2 is under construction)

Number of flats – 4,500

Number of residents – 10,000

Number of car parking spaces – 2,500

The height of the buildings is mostly between 7 and 9 stories, while 2 buildings have 16 stories.

Perkunkiemis is located on the zone marked as residential territory of high development intensity, and approximately 10 percent of the territory is located in the zone marked as district centers and other mixed-use territories of high development intensity. The main difference between these kinds of territories is a balance between residential buildings and public or business buildings.

Each zone has specific requirements, which are defined in the regulation table of the MP. The most important safety criteria, in our opinion, are a maximum intensity of development and a maximum height of buildings in this area. It could have an important role in the realization of CPTED principles and the creation of a safe environment.

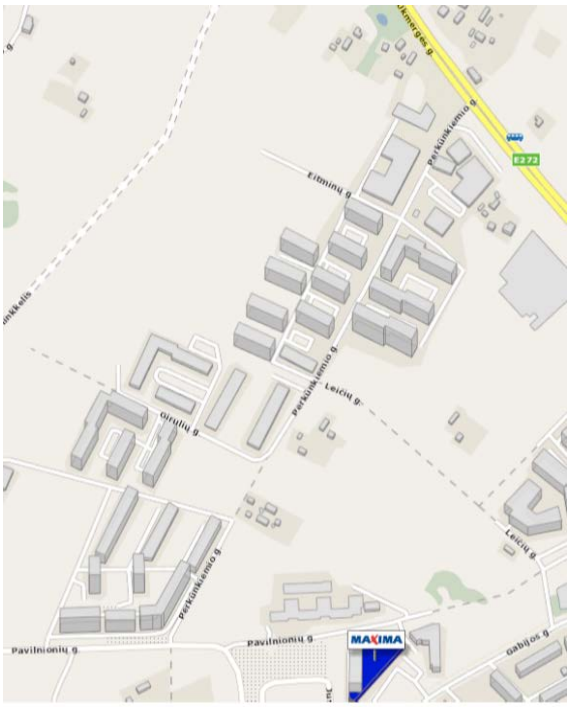
According to the regulations table of the MP, the main requirements for residential territories of high development intensity are:

The maximum intensity of development must be no more than 1.2.

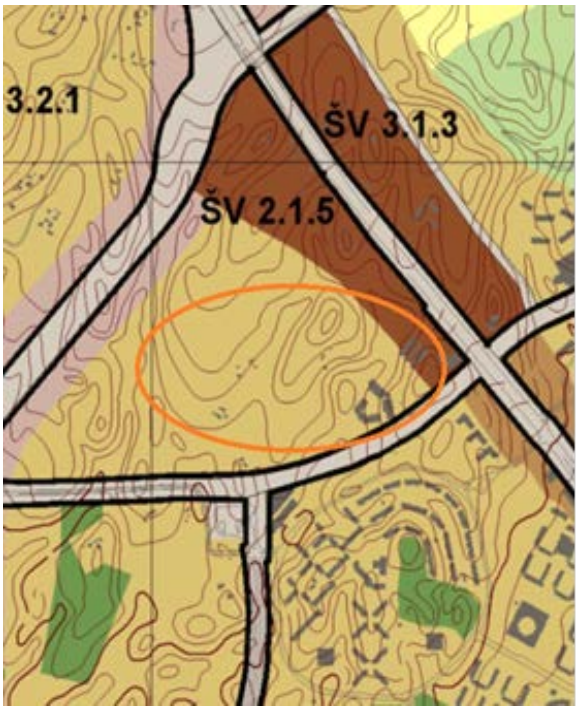
The maximum intensity of development in an area where the maximum height of buildings is 9 levels must not exceed 1.6.

The maximum allowable height of buildings is 5 levels.

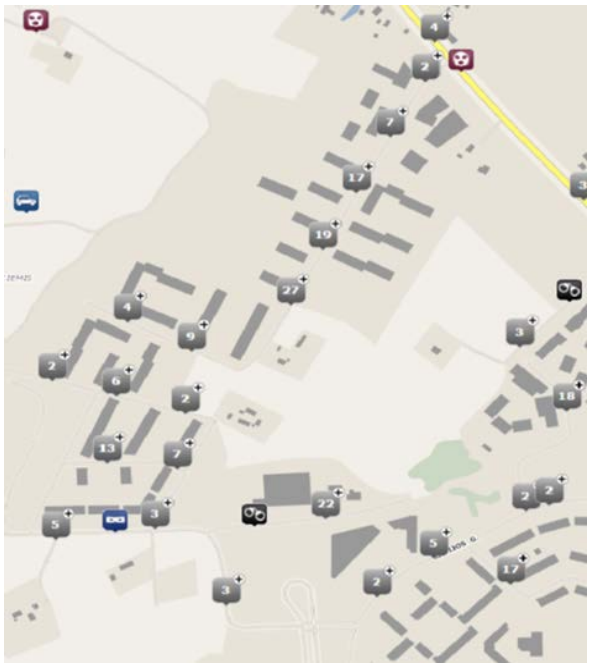
Up to 20 percent of the total height in the territory may be between 6 and 9 levels.



Picture 1. Perkunkiemis neighborhood



Picture 2. Location of the Perkunkiemis neighborhood on the



Picture 3. The hot territory, crimes against property

Picture 4 Perkunkiemis crime map All kinds of crimes

The crime situation in Perkunkiemis is quite complicated. If we try to compare the crime situation with the areas developed 20-30 years ago, we recognize that in some cases the situation in the old blocks is better or the same, as in the new neighborhood. After the explorations in the field and using police crime maps we recognize these additional reasons for the high crime rate in this area:

In the Perkunkiemis there are not enough parking lots. According to Lithuanian standards of construction, the minimum number of parking spaces should be equal to or higher than the number of flats in the area. This means that instead of 2,500 car parking spaces in this area, it should be equipped 4,000-4,500. We observe that the deficit of parking spaces is what obliges inhabitants of the area to leave their cars somewhere on the street or in the fields, violating the laws, and this has an impact on the high rate of car burglaries.

The critical density of urbanization generally has a negative influence on the crime situation in the area. As mentioned, according to the regulation table of the MP, this area should be built mostly with residential flat houses in height up to 5 levels, and only 20 percent of the buildings should be from 6 to 9 levels. In the Perkuniemis neighborhood there are no buildings up to 5 levels, most of them are from 7 to 9 levels and two residential buildings are 16 levels high. Approximate counts show what level of development intensity exists instead, and the rules which specify from 1.2 to 1.6 could reach 2 and more. It is a sign that the neighborhood is overloaded with residences, and this has a very negative impact on the crime situation.

In areas that are so overloaded, developing social relations between people who live there is very complicated. It is practically impossible to create safe neighborhood groups, because overcrowded environments stimulate people to mostly care about their own safety, but not about their neighbors and the environment. It means that the main CPTED principles such as natural access control and enforcement of territoriality aren’t operating and of course this negatively influences safety in the area.

Venecija – the example we should follow in developing new areas

After its establishment Venecija started to develop a few years later, in 2012, as a

Perkunkiemis. Potentially the location of the area is dangerous – it is located half way between the Naujininkai neighborhood (the area we explored in Module 2) and the Roma community, an area infamous for being the biggest drug marketplace in Vilnius. It means that the decision to develop a new residential area was quite risky, and probably the only benefit was cheaper land on this unpopular side of the city. After the analysis we have realized that this risk was well justified, and brought a lot of benefits for the residents. The success of this development was in having the right strategy and vision for the area. Developers, unlike in Perkunkiemis, decided to create an attractive neighborhood with buildings only up to 4 floors, and maintain a low intensity of urbanization. A low urbanization density, well-installed security measures and strong community created a safe life in the area. One can find most of CPTED principles exhibited there too. The area is surrounded by fences, which increase access control, and excellent light in the area guarantees perfect visibility. Clear zoning between public, semi-public, semi-private and private zones strongly enforce safety in this area. And of course good constant maintenance increases safety in the area. Consequently, according to crime statistics, only 2 crimes have been reported in this neighborhood during 2014. On the maps below we present the area and the main facts about it.

Main facts:

Picture 5. The sub-district Venecija

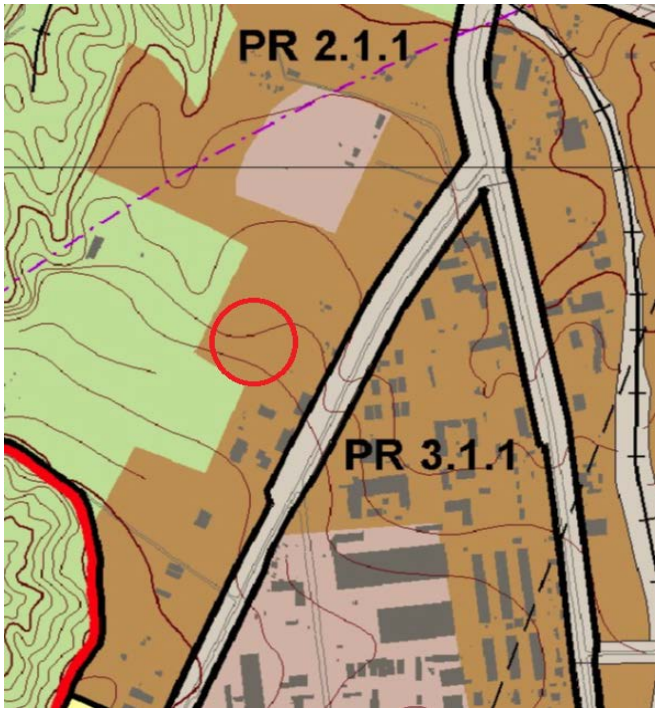
•Area – 4 ha

•Number of houses – 18

•Number of flats – 200

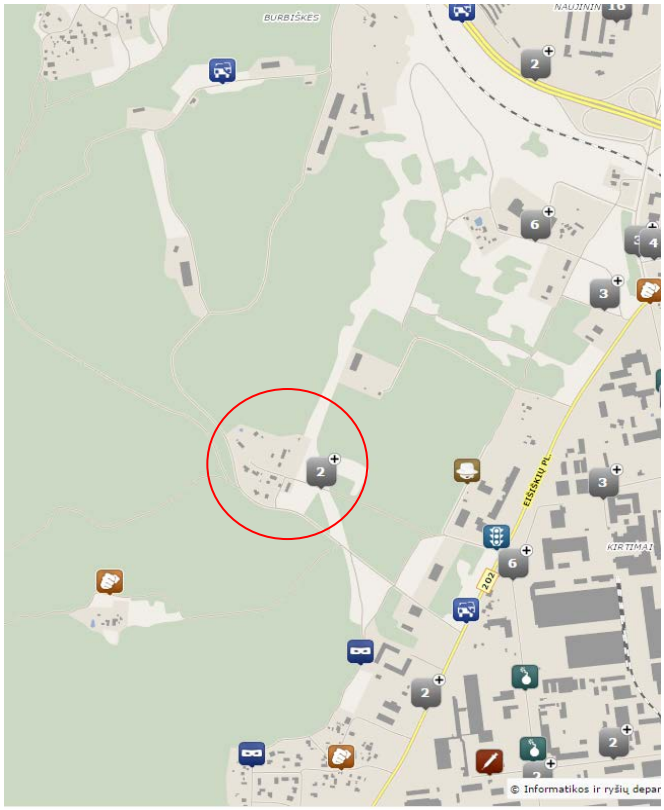
•Number of inhabitants – 500

The neighborhood of Venecija started developing in 2012. In the area, mostly residential houses up to 4 levels high dominate. In the MP the neighborhood located in the zone is marked as a residential territory of high development intensity. It means that here houses are allowed to be built up to 5 levels, and up to 20 percent of the area could be occupied by residential houses up to 9 levels. But developers of the area have chosen another strategy for development.



Picture 6. Location of Venecija on the MP

Analysis of the crime map (Picture 7) shows that in the Venecija neighbourhood during 2014, only 2 crimes (domestic violence and property damage) were reported to the police. It shows that the strategy for the development of this area was chosen correctly.



Picture 7. Crime map of Venecija

Conclusions

After analysis of these two absolutely different strategies for the development of new areas, the Lithuanian CPTED group delivered this letter with these main recommendations to the Vilnius City Municipality:

In newly developed residential areas, mostly low-intensity levels of urbanization must be promoted. We suggest changing the status of new areas in the MP from residential territories of high-intensity development to residential territories of medium-intensity development. It will automatically decrease the intensity of urbanization, the population density, and of course the safety in these areas. For example, the maximum allowed height of buildings in these territories should be 4 levels, while maximum intensity of development should be 0.8.

Local communities and social activities in the residential areas should be promoted. This is possible to successfully achieve only in smaller residential areas, as in Venecija, and very difficult to realize in a huge residential neighborhood, like Perkunkiemis. To achieve this goal, it is very important to include objects that increase social activities, such as playgrounds, meeting places, etc. in the planning process.

The main CPTED principles should be included in the planning process and implemented in the areas. Requirements for safe car parking, access control, territoriality and constant maintenance should be built in from the planning stage to the realization of the plan in the field.

Latvia

A.Rinkevics, L.Legzdiņa, D.Skuja, A.Savčenko

Case study – Jelgava city

1. Choosing the plan

The territory in Jelgava was chosen as a case study for the homework of Module VI. This project includes traffic planning, improvement of the park, development of the parking area, improvements in the landscape, lighting, development of the bicycle path, rearranging public transport and installing CCTV surveillance. The second part of the project, which is still in the development stage, foresees that in the future the bus station will be near the train station, and also changes the location of the central market as well (the central market also will be located near the central train station).

Information about the project was gathered together using information available on the webpage of the Jelgava City Municipality, and also by cooperating with officials from the Municipality. Getting all the documentation was quite challenging since the final detailed plan was still not ready. Therefore the analysis was made using a mixed methodology – analyzing maps and plans that were already available and also visiting the territory and analyzing it in its actual environment. The project and plans were analyzed in the context of the strategic planning documents of the City of Jelgava. Visiting the territory was crucial as there were no other visual materials besides the detailed plan (not finished) and the location of the CCTV units. However, strategically the decision to choose this city and this project was based on opportunities to cooperate with the Municipality of Jelgava in the future and to cooperate in implementing CPTED principles.

List of the analyzed documents:

1. *The Strategic Development Plan of Jelgava*
2. *The Long-term Development Strategy of the City of Jelgava, 2007-2020*
3. A general spatial plan of the Jelgava city
4. A detailed plan of the reconstructed territory around the central train station, including traffic planning
5. A map with CCTV locations in reconstructed territory
6. *CEN/TR 14383-2*

2. Background information

Description of the city

Before analysis of the plan, background information was gathered about the City of Jelgava and its strategic planning documents to fully understand the goals of the new project. It is impossible to understand the project and how it reflects the needs of the community if there is no background information.

Jelgava is a city in Latvia with a population of 64,279 people and a territory of 60.32 km^2. The ethnic composition of the city is 57.3% Latvian, 27.8% Russian, 5.7% Belarusian, 2.7% Ukrainian, 2% Polish, 1.4% Lithuanian, 1.2% Romanian, 1.9% other (2012). The city is located 42 km away from Riga (the capital city). The population is 54% female. There is a university of agriculture in Jelgava and therefore there are a lot of students in the city.

There is a comparatively high proportion of people of working age – 66.3%; in Latvia the average is 65.7%. Already now we have to face the fact that the small proportion of children today will cause problems in the labor resources market in the future - at the moment, 14.8% of Jelgava's citizens are under working age.

Many people are employed in the public sector in Jelgava – approximately 42%, more than the Latvian average of 34%. This can be explained by the fact that the Latvia University of Agriculture and other educational institutions are the largest employers in Jelgava; moreover, regional administration institutions are situated in the city. Jelgava as a place to work seems to be attractive to people from other districts.

Picture 1. *City of Jelgava*

Picture 2. *City of Jelgava*

Picture 3. *City of Jelgava*

Planning documents

Legal acts and documents that regulate spatial planning and building in Latvia are divided into three levels:

1. National (laws, rules of the Cabinet of Ministers)
2. Regional (regional spatial plans, guidelines)
3. Local (municipality plans, rules of the municipality, detailed plans)

Regions set guidelines for each municipality for spatial plan development. The laws governing municipalities also define that a municipality has to develop a spatial plan. The problems on the local level are that most municipalities are setting short-term and not long-term objectives, and also make decisions based on short-term benefits. Also legislation is changing so fast that there are many problems concerning spatial planning. In addition, municipalities lack knowledge and competence in the field of

spatial planning, so very often the plans that are developed are of poor quality. The planning documents of the City of Jelgava originate at the regional level. In each municipality there is also an institution that is responsible for building regulations. There are 140 such institutions in Latvia. Their responsibility is to control the building process and approve building plans. Every plan and detailed plan is public, so it must be on the government webpage where anyone can look at it. However in this case the detailed plan of the project was not available on the internet.

The long-term development strategy of the City of Jelgava, 2007-2020

Priorities of the strategy:

- Development of the qualitative and modern structure of the city
- Ensuring equal accessibility to infrastructure and city services to all inhabitants
- Sustainable maintenance of the nature and the culture of the city

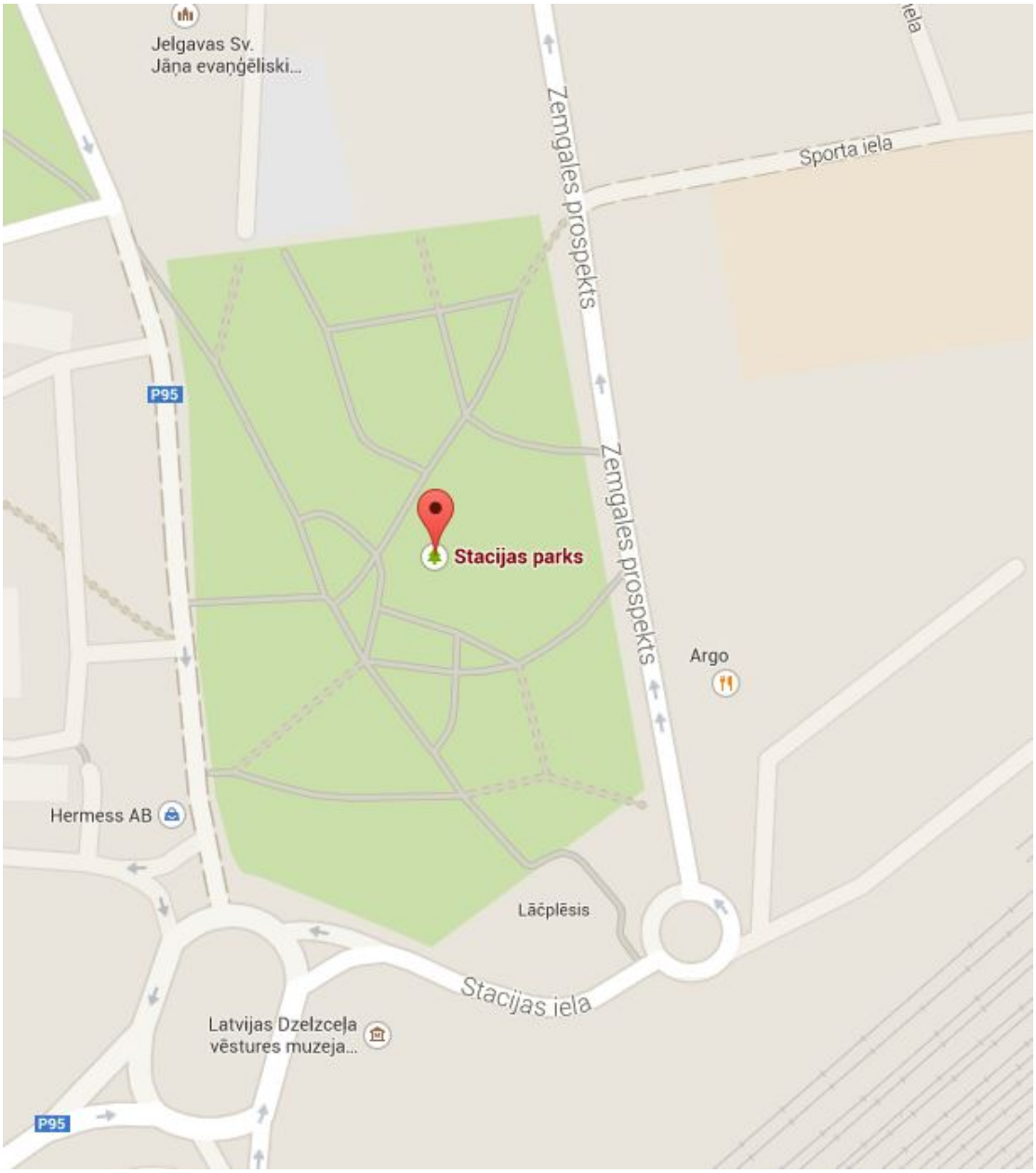
Vision for the year 2020:

- Jelgava is a city that offers a people-friendly environment well suited for work and for leisure
- **Jelgava is a safe and highly developed city with a high quality of life**
- Jelgava is a dynamic city with knowledge-based economics, extensive possibilities for education, a friendly social environment and has many opportunities for active participation in culture and sports

3. Analysis of the spatial plans

First of all, the spatial plan for the City of Jelgava was explored to understand the general spatial planning of the city, and the context for the project (Picture 4). Jelgava is a medium-sized Latvian city with a diverse population. There are diverse zones as well – high rise apartment buildings, private houses, parks, etc.

The analyzed project is located near the central train station. Basically it includes the central train station, the park in front of the central station, the roads surrounding this territory and the surrounding buildings (apartment buildings, shops etc.)



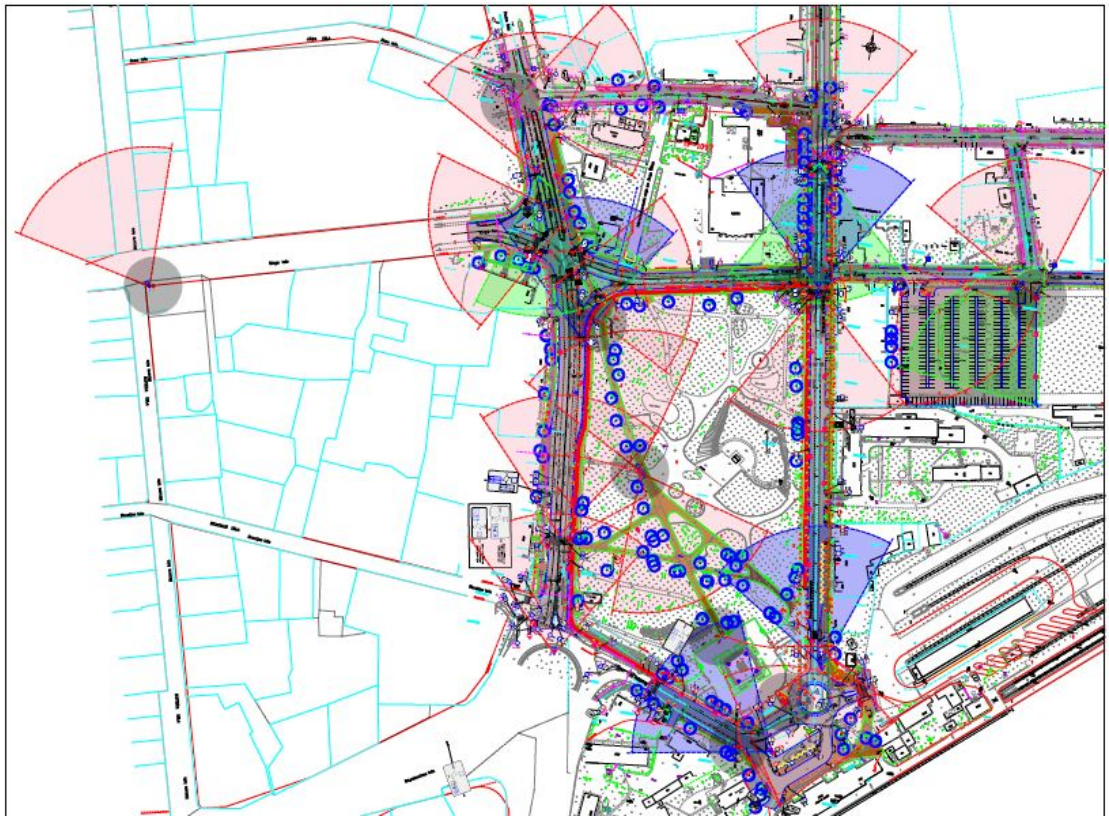
Picture 5. *Map of the analyzed territory*

Main changes implemented during the reconstruction project:

1. Change of traffic organization (crossroads replaced with traffic circles, one way streets turned into two-way streets, a new road that connects two streets together that were not connected before)
2. Creating a bicycle path around the park
3. Moving the public transport stop closer to the entrance of the central train station
4. Moving the central bus station close to the central train station (in the second stage of the project)

5. Moving the central market close to the train station (in the second stage of the project)
6. Improving park territory – cutting old trees and branches, planting new trees, improving the landscape of the park, installing new benches, etc.
7. Creating a vehicle parking area
8. Installing CCTV surveillance in territory near the central train station.

Changes in road traffic, improvements in the park and CCTV locations have been analyzed using territorial plans.



Picture 6. *CCTV installation plan*

CCTV locations were approved by the municipality police of Jelgava. The location of the cameras was chosen so that most of the territory is covered, and also with consideration of possible safety problems. The general plan of the reconstructed territory shows changes in traffic and changes in the territory plan.

Analysis of the planning strategies and documents granted some insight into the project. There was a meeting arranged with the Municipality Police and also some communication with the Municipality to find out more information about the project. However the conclusion was that these documents are not enough to make any recommendations. There were inadequate visualizations enabling a fuller understanding of how the territory will look after reconstruction. As the project is in progress at the moment, the decision was made to visit the reconstructed territory. Additional information was gathered during a visit to the territory. Recommendations and comments were made based on CPTED principles of:

1. Territoriality
2. Surveillance
3. Access-control
4. Target hardening
5. Image and maintenance
6. Facilitating positive use

Analysis of the territory was made using CEN/TR 14383-2 standard Annex D.

Identified problems:

1. There are no physical barriers between the bicycle path and the pedestrian sidewalk. Only the colors of the path distinguish the pedestrian side from the bicycle side, and this can cause discomfort for pedestrians. Also the bicycle path is built to only go through the park territory and does not go to the city center.

2. Changes in traffic and traffic regulations were made taking into account the needs of the drivers but not considering the consequences for pedestrians. The crossroad with traffic lights opposite the central train station was replaced with a traffic circle and a crosswalk for pedestrians that is located in another place (not where the traffic lights were before). So people must cross the street in another location. It is convenient when people are getting off the train, but it is not comfortable when people are going to buy tickets. These changes are already made and people now are crossing the street based on their old habit, where it is not permitted now. Very often people go to the train station through the park, and now there is no opportunity to cross the road if you are coming straight from the park.

3. There is no pedestrian sidewalk in the park opposite the crosswalk on the other side of the train station. So it is well-located, but there should be the possibility of continuing to walk in the park. In the park there is no pedestrian path, so people just go through a green zone and in winter there is a danger of falling, especially for seniors.
4. The traffic circle near the train station entrance is a little bit too small for public transport.
5. A disreputbale local bar is located near the central train station, a gathering spot for many drunk individuals, and it is a source of disturbances to public order, with violence quite often breaking out.

6. Lurking near the central train station are many homeless people, as well as some youth groups that can create discomfort for people, especially at night.
7. Opposite the park there is an isolated place that is dark and surrounded by buildings (the backs of the shops) where it is really dark and there is no visibility, no natural surveillance and no light. Sometimes people are assaulted or robbed in this place.

8. The location of the planned parking area is not the best in the context of security. The parking area is planned for the edge of this whole territory. First of all to get to the parking lot a person will go through two buildings that are abandoned at the moment, where there is not enough light, nor is there is any CCTV monitoring planned for this street. Secondly, the parking space will be on the perimeter of the area, so there is only open space around it and buildings in front of the parking area, thus there will be no visibility, no natural surveillance and no exit/entrance control.
9. In the park territory there are natural barriers that in some places decrease visibility. There are also some places where there are benches, but no light.
10. In the park territory there are old bunkers that can be dangerous for kids. The bunkers are closed but sometimes the door locks are damaged by youth or homeless people and then kids can get inside.

Positive aspects of the territory and plan:

1. The public transport stop is very close to the entrance of the train station.

2. Moving the central bus station close to the train station will make traveling more comfortable for citizens.
3. Moving the central market close to the train station will also make this territory a social center, creating a place where people will gather, and hopefully this will increase feelings of safety for all.

4. The traffic circle is better for drivers, especially for visitors as before it was quite difficult to find a way out.

5. Visibility and natural surveillance in the park are good. Trees and branches are of an appropriate height and density.
6. Lighting in the most of the territory is pretty good.

7. CCTV surveillance will cover almost the whole territory.
8. There is a clear territorial layout, and it is easy to find your way even if you are new to the town.
9. The territory is well maintained.
10. There are police officers patrolling in the central train station.
11. CCTV surveillance will be installed near the risky bar, so that all disturbances will be recorded.

Recommendations:

1. Create a physical barrier between the bicycle and pedestrian paths. Because pedestrians usually use the bicycle path, accidents can happen.
2. Create a physical barrier in the spot where people cross the road by old habit (it would have been better to consider this problem before, but this part of the project is already finished)
3. Establish another pedestrian pathway in the park where it connects with the crosswalk so that pedestrians can avoid having to cross the green zone.
4. Install CCTV surveillance on the street that leads to the future parking lot, and improve the lighting there. Ideally, the abandoned buildings would be taken care of.
5. Maintenance of the bunkers should be improved (as there is no way to get rid of them). Regular checks are necessary to be sure that nobody can get inside.
6. Pedestrian and bicycle paths should be revised in the context of continuity and connection. For example, all pedestrian pathways should continue on outside the park and the bicycle path needs to continue to the city center.
7. In the park there should be a lamp near every bench, otherwise dark zones are created where youth can gather to drink, etc.

To establish cooperation with the Municipality of Jelgava a meeting will be arranged soon with the Spatial Planner of the Municipality. This project will be discussed and then recommendations will be suggested to the Municipality.

Estonia

Kopli Liinid (Kopli Lines)

Team VI

Toomas Paap; Martin Rist - East Prefecture;

Marek Väljari - East Prefecture; Maria Derlõš - NGO Neighbourhood Watch; NGO Estonian Urban Lab

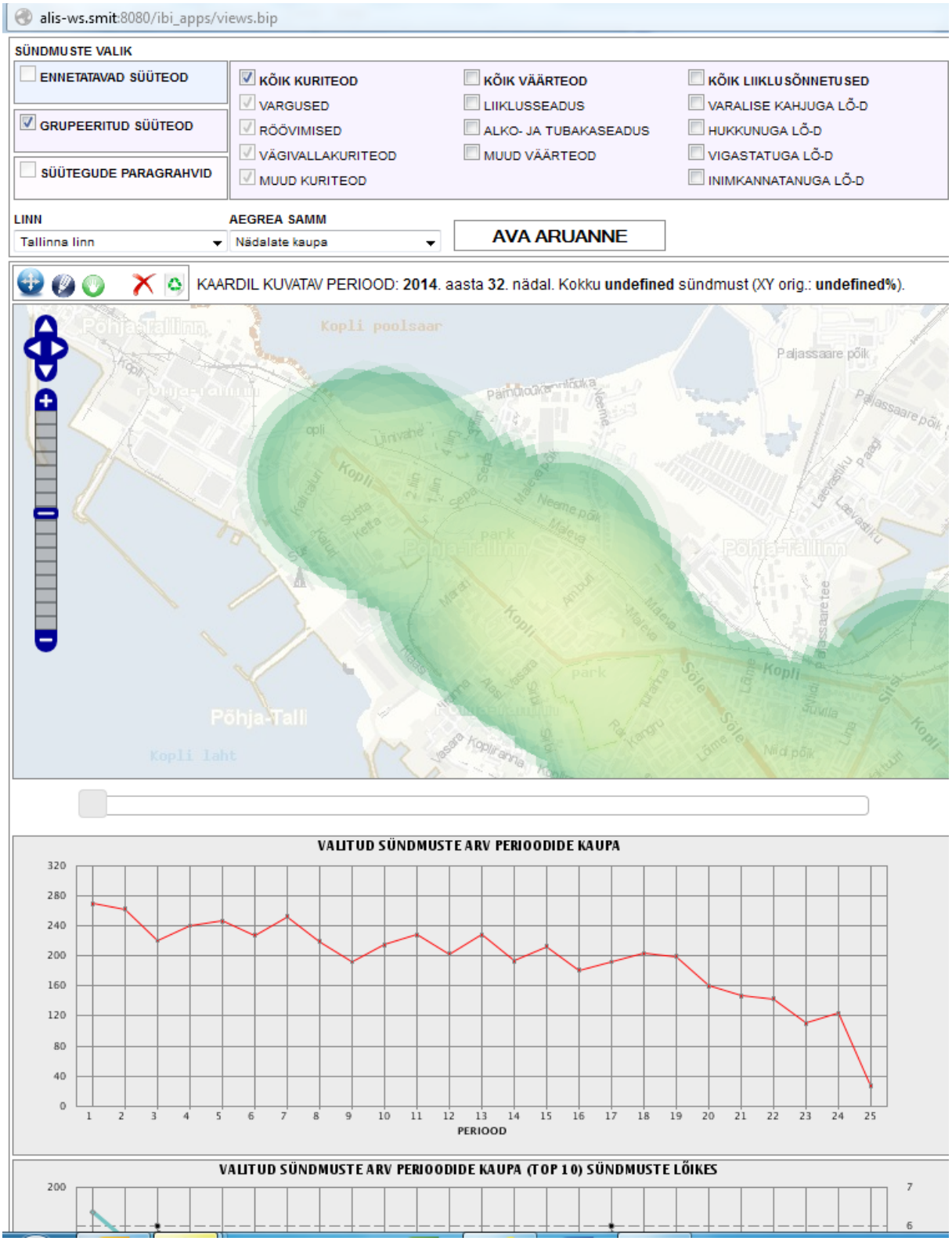
The planning area is **23.13 ha**. The aim is to develop urban space into a **safe high-quality living environment** with the necessary infrastructure and establish more green spaces in the form of new parks and recreation areas. It is **possible to build:**

- 527 apartments
- 38 single-family dwellings
- 5 public-use buildings
- 3 commercial-use buildings

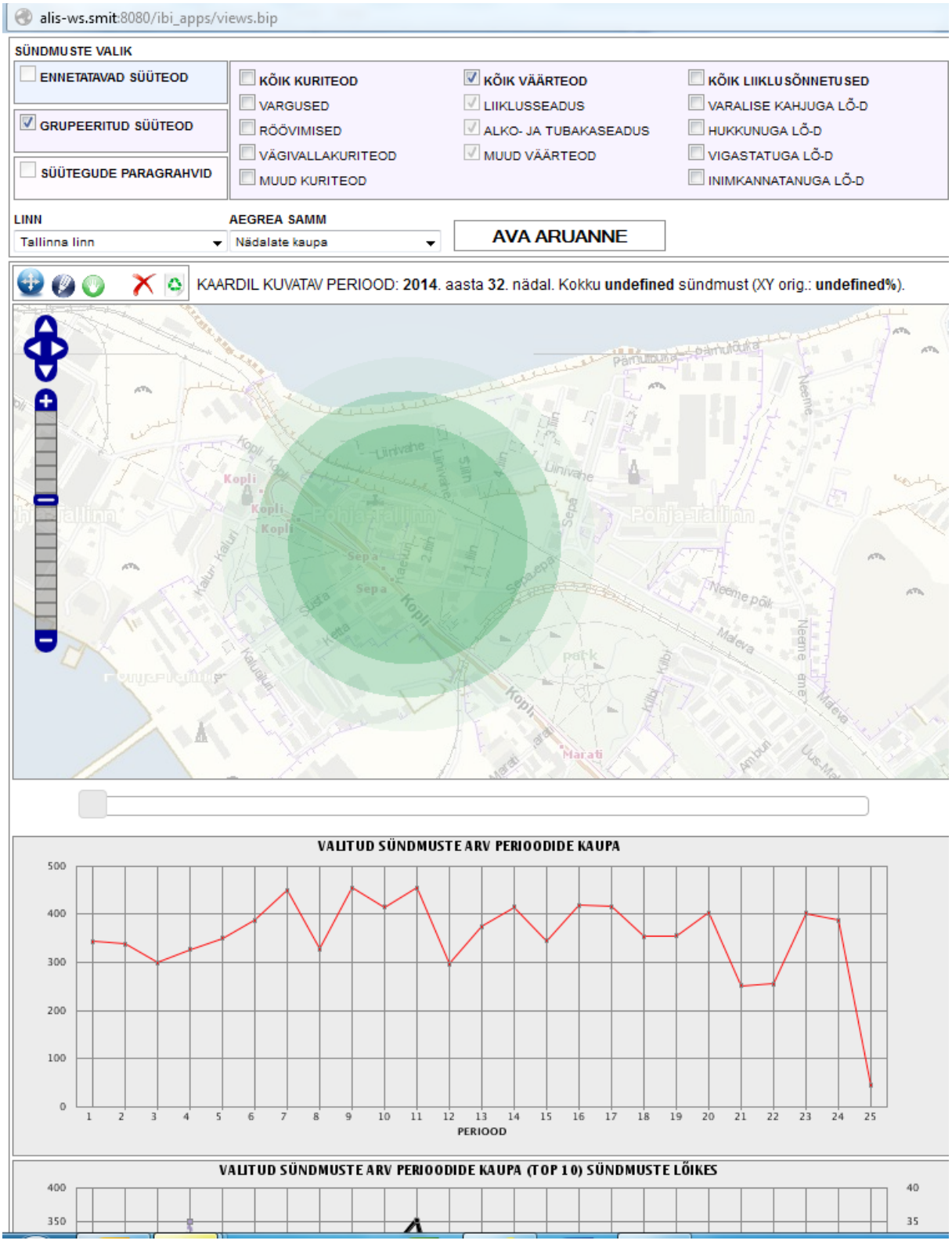
The selected developers are **Pro Kapital and Fund Ehitus.**


Liinivahe
4. liin
3. liin
Sepa
Treiali
Kaewuri
2. liin
1. liin
Süsta park
Süsta
Ketta
Kopli

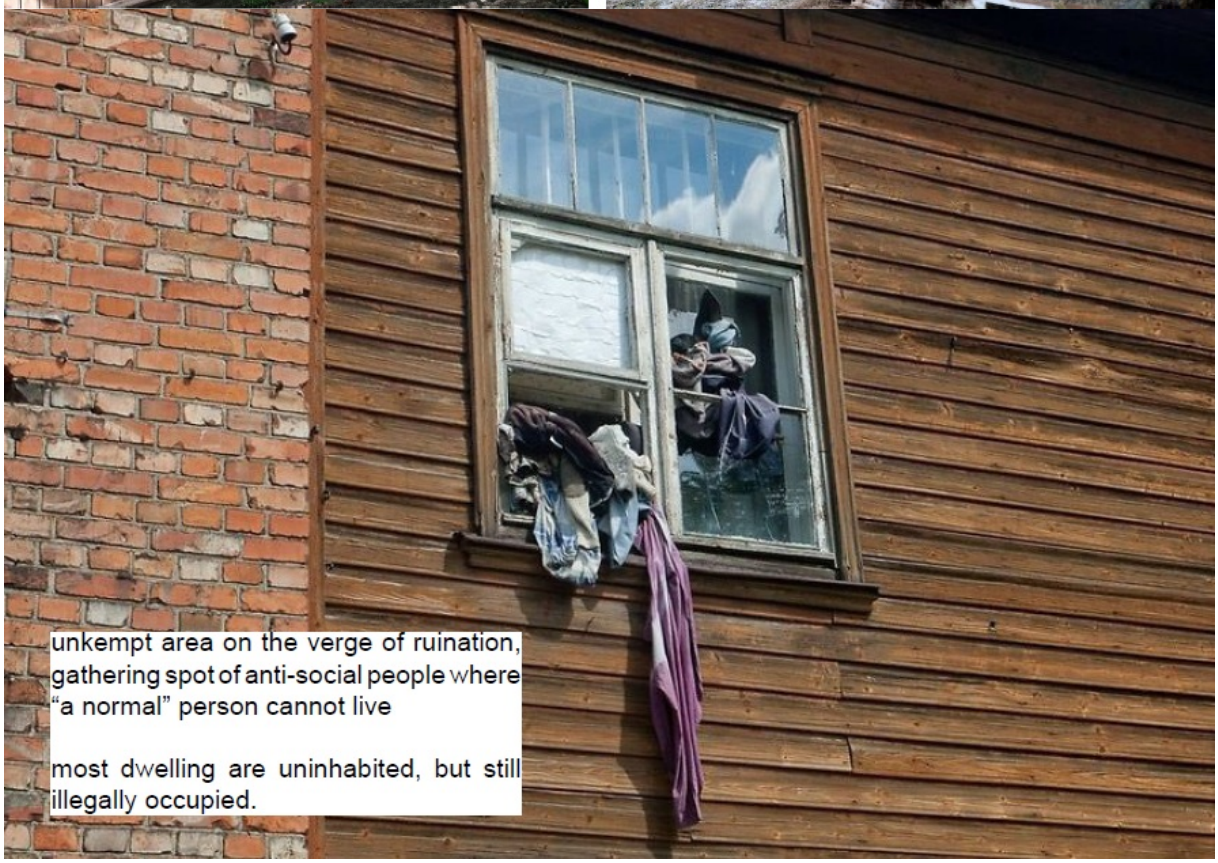

G
F
E
D2
A
B
D1



Serious or notifiable offences (*kuriteod*)



Non-notifiable offences (*väärteod*)



unkempt area on the verge of ruination, gathering spot of anti-social people where "a normal" person cannot live

most dwelling are uninhabited, but still illegally occupied.


railway cuts the area cuts it in two -
Upper and Lower kolonii
(Ülemine ja Alumine kolonii).


built in the beginning of
20th century for the workers
of shipbuilding factory

CPTED in the development plan

The feeling of security is today one of the most central concerns for people when choosing a home. Therefore one of the most important issues in this plan is to prevent crime through environmental design and push out crime by implementing planning strategies.

Territoriality

In the plan:

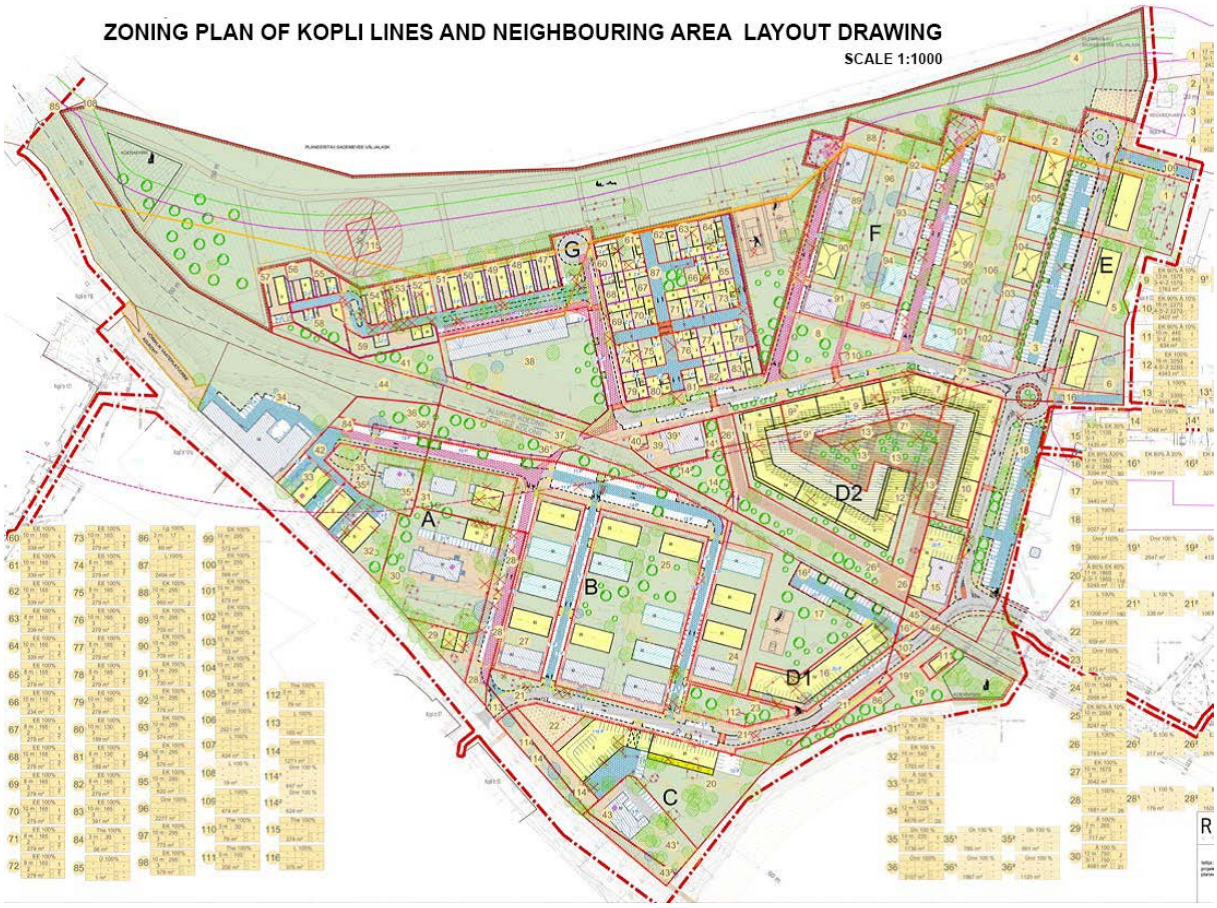
1. fencing the living quarters
2. creating a pleasant, holistic architectural and landscape environment which at the same time is not monotonous
3. restricting passage to strangers
4. ensuring that the area has a human scale by dividing the site into smaller territories

Suggestions:

1. Demarcate more clearly and regulate the differentiation between public and private areas
2. Build fencing:

Single-family dwelling- transparent fencing (wooden plank fence) maximum 1.5m

Apartment buildings - designate the border of semi-private spaces by low fencing (maximum 0.5 m) or vegetation (hedges).



Surveillance

In the plan:

1. providing mixed functions in the area
2. ensuring visibility of entrances and sight corridors from the windows
3. lighting in the areas and street
4. placing surveillance cameras next to entrances and parking lots
5. establishing daily patrols
6. providing parking mainly on the streets and visible from the building
7. planning streets to host pedestrian, bike and car traffic

Suggestions:

1. Create greater variety of use, ensuring mixed functions (in the commercial zones there should be not only offices, but also shops and services)
2. Ensure that first floor commercial spaces have a good line of vision onto the streets and draft a regulation requiring the building of large windows
3. Install homogenous street lightning, instead of very bright spotlights
4. Reconstruct dangerous pedestrian crossings over the railway
5. Develop residents' responsibility towards their area by establishing Neighborhood Watch

Access control

In the plan:

1. The street network will be quite clear and will follow the existing structure
2. Making the area accessible from two bigger streets, eliminating a drive-through situation with many cul-de-sacs
3. Make the area accessible also by bike
4. Establish a well-organized, clear and coherent pedestrian network
5. Ensure that recreational areas have at least two access points

Suggestions:

1. Reduce speeding on straight routes by putting speed bumps on the pedestrian crossings
2. Railway crossings must be made safe, and possibly regulated

Target hardening

In the plan:

1. Buildings are to have strong windows and window frames, doors and locks
2. Future home owners should establish a personal security system

Image and maintenance

In the plan:

1. Preserve the area's valued historical milieu – the new plan takes into consideration the existing appearance of the traditional wooden housing
2. Create a link between the new and the existing urban fabric
3. Use resistant and robust but pleasant and attractive materials
4. Use light colors on facades

Facilitating positive use

In the plan:

1. Provide a good mix of housing options

Suggestions:

1. Beware of the risk of the area becoming a gated community.
2. Housing types must be regulated (e.g. the area must include a certain percentage of social housing buildings)
3. Residents should be well informed about safety measures, be aware of the measures they themselves could take (e.g. informing police, keeping an eye out, being suspicious of strangers, etc.)
4. Regular community meetings would be a good tool for establishing mutual trust and security in the area


from suggestions to concrete requirements

5 EXPECTATIONS

Among the members of the Editorial Board we shared ideas for a positive future of implementing the CPTED measures in each country. In this final part we shall provide an overview of our expectations for the future.

Lithuania

As mentioned above, during Project 8 the Lithuanian participants will have acquired a basic knowledge of CPTED. The main task of the participants is to exchange information and knowledge with colleagues and other interested parties. We hope that the participants will become ambassadors of CPTED in their own country and not only spread information about the efficacy of CPTED principles but also be actively engaged in the development of new spatial planning as well as for existing areas. We hope that it gets the governments and local authorities actively involved in the implementation of CPTED. We note that the first steps have already been taken and the recommendation to implement CPTED principles in the central part of the Naujininkai neighborhood has been prepared and provided to the Vilnius City Municipality. We expect that in the future every community police officer will be able to prepare simple CPTED recommendations and provide them to the local authorities responsible for the development of a safer environment.

Latvia

All knowledge gained about Crime Prevention Through Environmental Design will be passed on to the police officers of the State Police of Latvia during their national training. Knowledge about CPTED will also be conveyed to specialists in Latvia via the CPTED manual produced during this project. Trainings together with a CPTED manual will give an opportunity to introduce CPTED to specialists who will be able to give sustainability to the project's activities. However knowledge about CPTED basics is not enough to implement this prevention method.

Implementation of CPTED requires cooperation between many stakeholders: municipalities, educational institutions, planners, architects, building approval institutions, police officers,

the public etc. It also requires serious change in normative and planning documents. These are long-term goals, and cannot be reached solely by implementing knowledge gained from this project. There is some work begun in Latvia by the NGO Pro-Police, in cooperation with an educational institution for planners, to introduce CPTED principles to young planners - however it was just a pilot project. Latvia is not yet ready for such fundamental changes in its planning system, so it will take a lot of time to adopt this prevention method.

Finland

The training has delivered a decent background concerning CPTED principles. Every participant's ability to co-operate in long-term crime prevention planning has improved.

With this background we are enthusiastic about starting to implement the concept of CPTED on a national level. The Netherlands Police Label Secure Housing project has proven to be a great way to make certain that the concept of safety is considered through all parts of the planning process. There is no doubt that we can improve our work in this field in Finland.

Five participants from Finland were involved in the project training, all of us from different parts of Finland. This helps in our work of spreading the information throughout the country. Every participant shall continue the work of sharing the knowledge of CPTED principles in all departments and units on local levels.

The next step for us is to start interaction-based training programs to immerse more people in this agenda in Finland. We are looking forward to holding the training for interest groups. The first training day will be held in the Police College of Finland and the arrangements have already begun.

To achieve more secure, safer cities requires wide-spread co-operation between officials and many interest groups. We are looking forward to encouraging more people to be involved in crime-prevention planning.

Estonia

Involved in this project were different Police Prefectures from all over Estonia, altogether approximately 40 people. Most of them were police officers, but there were two lecturers, as well as architects and advisers from ministries. These trainings made us realize that our country needs more trainings, and that our future police officers need education about this topic, and books for the Estonian Academy of Security Sciences to facilitate the learning process. We want to train our police officers so that they can co-operate with architects and town planners. Architects as well should be taught in their training programs how to work with the cardinal principles of the CPTED.